



Eco-Calligraphy: Utilizing Cardboard Waste As A Medium For Edupreneurship At Mi Al-Hidayah

*Lailatul Lutfiyah¹, Risa Igrit Alita²

Universitas Yudharta Pasuruan, Indonesia^{1,2}

Corresponding Author: lailtlutfyh@gmail.com

Article Info :	ABSTRACT
Accepted: 12-01-2026 Approved: 25-02-2026 Published: 13-04-2026	<p>Background: This study aims to describe the utilization of cardboard waste as eco-calligraphy media in entrepreneurship-based learning at MI Al-Hidayah. The study is motivated by the limited creativity of students in processing waste materials and the lack of learning activities that integrate artistic, economic, and environmental values in madrasa education.</p> <p>Objective: This study aims to describe the utilization of cardboard waste as eco-calligraphy media in entrepreneurship-based learning at MI Al-Hidayah.</p> <p>Method: This study employed a descriptive qualitative approach involving 18 sixth-grade students of MI Al-Hidayah over a one-month period. Data were collected through observation, interviews, and documentation to obtain an in-depth understanding of the learning process and outcomes.</p> <p>Findings and Implications: The findings indicate that transforming cardboard waste into eco-calligraphy enhances students' creativity, independence, and skills in producing works with aesthetic and economic value. In addition, this activity increases students' awareness of environmental sustainability through recycling practices and responsible waste management. The implementation of eco-calligraphy also supports the integration of spiritual, social, and entrepreneurial values in learning.</p> <p>Conclusion: The use of cardboard waste as eco-calligraphy media is an effective alternative for developing entrepreneurship-based learning in madrasa settings and has the potential to support sustainable and creative learning practices in broader educational contexts.</p>
Keywords: eco-calligraphy; cardboard waste; entrepreneurship based learning; creativity; self- reliance	

INTRODUCTION

Islamic education at the elementary level plays a strategic role in shaping students' character, independence, creativity, and ecological awareness. In the context of modern learning, madrasas are required not only to transfer Islamic knowledge but also to develop entrepreneurial skills based on *Qur'anic* values (*edupreneurship*). This approach is important for equipping students with relevant life skills while instilling spiritual values and social responsibility from an early age.

One of the problems frequently encountered in madrasas is the suboptimal utilization of school waste, particularly used cardboard, which tends to accumulate without being managed productively. In fact, cardboard waste has the potential to be transformed into creative, useful, and economically valuable products when integrated into appropriate learning activities. This condition indicates a gap between the potential of available local resources and the implementation of creative *eco-edupreneurship*-based learning in madrasas.

Based on preliminary observations conducted at MI Al-Hidayah Jatigunting Wonorejo, it was found that cardboard waste is available in sufficient quantities but has not been systematically utilized as a learning medium. Furthermore, entrepreneurship learning activities are still limited to conceptual aspects and have not been integrated with environmental education and the reinforcement of *Qur'anic* values. As a result, students have limited opportunities to develop creativity, independence, and environmental awareness through productive and contextual learning activities.

Various previous studies have shown that utilizing waste as a learning medium, project-based learning, creative arts, and the integration of Islamic values contribute positively to the development of students' creativity, character, and entrepreneurial spirit. However, most of these studies examine these aspects separately and do not integrate them into a comprehensive learning model, particularly in the context of elementary madrasas.

The research gap in this study lies in the limited integration of *eco-edupreneurship*, Islamic calligraphy, cardboard waste utilization, and the reinforcement of *Qur'anic* values within a single learning model. Previous studies have tended to focus on creativity, entrepreneurship, or environmental education separately, thus lacking a contextual learning approach that can be applied in madrasa education.

The novelty of this study lies in the integration of waste utilization, *eco-calligraphy* art, and *edupreneurship*-based learning within the context of *Qurdis* education in elementary madrasas. This study proposes an *eco-calligraphy* learning activity using cardboard waste that combines artistic creativity, environmental awareness, entrepreneurial values, and *Qur'anic* education within a single integrated learning practice.

Based on the description above, this study aims to describe the implementation of cardboard waste utilization through *eco-calligraphy* activities as a learning medium for *Edupreneur Qurdis* at MI Al-Hidayah Jatigunting Wonorejo and to analyze its impact on students' creativity, independence, and environmental awareness.

RESEARCH METHOD

Research Design

This study employed a descriptive qualitative approach to examine the utilization of cardboard waste as *eco-calligraphy* media in edupreneurship learning at MI Al-Hidayah Jatigunting Wonorejo. The research was conducted over a one-month period in a natural classroom setting without any manipulation of variables, allowing the data to reflect actual learning conditions. The participants consisted of 18 sixth-grade students who were involved in eco-calligraphy learning activities using cardboard waste. A qualitative approach was chosen because the study focused on understanding social and educational phenomena, particularly students' activities, creative processes, and the integration of entrepreneurial values into *practice-based learning*. This approach enabled the researchers to capture students' experiences and responses during *eco-calligraphy* activities, including the development of creativity, independence, and entrepreneurial awareness throughout the learning process.

Subjects and Objects of Research

The research subjects included edupreneurship mentor teachers, Al-Hidayah MI students directly involved in *eco-calligraphy* activities, and school officials involved in the planning and implementation of the edupreneurship program. Subjects were selected purposively, ensuring they were directly involved and had a deep understanding of the activities being studied.

The students who participated in the research were active participants in all stages of the eco-calligraphy activity, from collecting cardboard waste to the production process and determining the product's selling price. The accompanying teacher acted as a facilitator and guide in the activity, while the school supported the program's policies and implementation.

The research object is the use of cardboard waste as an eco-calligraphy medium integrated into edupreneurship learning. The focus of the research object includes the waste processing process, students' creative activities, and the entrepreneurial values instilled through these activities.

Data collection technique

Data collection was carried out through observation, interviews, and documentation to obtain comprehensive and complementary data.

Direct observations were conducted during the eco-calligraphy activities to observe the learning process, student engagement, interaction patterns between students, and the teacher's role in supervising the activities. Observations also focused on students' creativity, independence, cooperation, and problem-solving skills during the product creation process.

Semi-structured interviews were conducted with the accompanying teacher and several students to explore their experiences, perceptions, and perceived benefits of the *eco-calligraphy* activities. Interviews with the teacher focused on learning strategies, challenges encountered, and the

edupreneurship values instilled, while interviews with the students focused on their learning experiences, interests, and entrepreneurial understanding.

Documentation was used to supplement observation and interview data, including activity photos, student *eco-calligraphy* work, learning notes, and school archives related to the edupreneurship program. Documentation data serves as visual evidence and supports the validity of the research findings.

Data Analysis Techniques

Data analysis was carried out using the Miles and Huberman model, which includes the stages of data reduction, data presentation, and drawing conclusions. Data reduction was performed by selecting and focusing on data relevant to the research objectives, specifically those related to students' creativity, independence, and entrepreneurial values. Data was presented in descriptive narrative form, supported by tables and figures depicting the results. Conclusions were then drawn by interpreting the data comprehensively to identify patterns, relationships, and meaning within the phenomena under study.

Research Ethics

Data validity was ensured through triangulation of techniques and sources, comparing data from observations, interviews, and documentation to ensure consistency of findings. Furthermore, researchers held discussions with accompanying teachers to confirm field findings. This research was conducted in accordance with ethical research principles, including obtaining official permission from the school, maintaining student confidentiality, and ensuring that all research activities did not disrupt the learning process. The data obtained will be used solely for academic purposes and the development of educational science.

RESULTS AND DISCUSSION

The *eco-calligraphy* activity utilizing cardboard waste as a medium for edupreneurship learning at MI Al-Hidayah contributed to the development of students' creativity, entrepreneurial skills, and environmental awareness. Observations and documentation show that students were able to transform used cardboard into *Islamic calligraphy* works with various designs, colors, and techniques. These products possess both aesthetic and economic value and can be marketed within the school environment. The findings demonstrate that practice-based learning using locally available materials encourages students to think creatively, work productively, and develop independence.

Students' active involvement in all stages of the activity from collecting materials, designing and producing the artwork, to determining product prices reflects the internalization of *edupreneurship* values through experiential learning (*learning by doing*). Therefore, *eco-calligraphy* serves not only as a

medium for art and religious learning but also as a contextual approach to fostering students' entrepreneurial character. These findings are further discussed in relation to relevant theories and previous studies to strengthen the academic analysis and highlight their relevance to madrasa learning.

Eco-Calligraphy as a Development of Creativity

Based on the results of the activity, students were able to produce various forms of calligraphy with variations in patterns, colors, and types of decoration that showed freedom of expression and exploration of ideas. This finding is in line with the theory of creativity put forward by Munandar, which states that students' creativity develops through activities that provide space for exploration, creative freedom, and active involvement in the product creation process (Munandar, 2016). *Eco-calligraphy* activities provide opportunities for students to express ideas visually while developing their imagination through the use of simple materials from cardboard waste.

Field observations show that students exhibit high levels of enthusiasm throughout the cutting, pasting, coloring, and finishing stages. This active engagement reinforces the view that project-based learning enhances students' creativity through hands-on experience and independent problem-solving (Bell, 2010a; Thomas, 2019). Each *calligraphy* product produced has distinct characteristics, reflecting the style and preferences of each student, demonstrating the development of individual creativity. Thus, *eco-calligraphy* activities serve not only as a medium for art learning but also as an effective means of fostering student creativity through a contextual and experiential approach.

Beyond the visual aspect, *eco-calligraphy* activities also require students to plan designs, determine color compositions, and adapt letter shapes to the limited cardboard material. This process fosters divergent thinking and cognitive flexibility, as students must adapt their initial ideas to the available materials. The resulting creativity is not only aesthetic but also functional, focusing on how to create appealing works despite using waste materials. This demonstrates that limited media can actually stimulate students' creative ideas.

These findings align with research findings that suggest the use of recycled media in art learning can enhance students' creativity and ecological awareness (Khairunnisa, 2020b; Lestari et al., 2022). Compared to conventional art learning that utilizes ready-made materials, *eco-calligraphy* provides a more meaningful learning experience because students are directly involved in the process of transforming waste into valuable products. In the madrasah context, this activity also has the advantage of *integrating Quranic* values through *calligraphy*, thus fostering creativity that is inseparable from the spiritual dimension and Islamic character.

In addition to enhancing visual creativity, *eco-calligraphy* activities also encourage students to develop reflective thinking skills regarding their processes. Students are not only asked to produce a final work but are also

encouraged to reflect on the stages of creation, the difficulties encountered, and the solutions chosen during the process. This reflective process helps students understand that creativity doesn't always emerge instantly, but rather through a process of trial and error, and gradual refinement.

In the context of madrasah learning, developing creativity through eco-calligraphy is unique because it is linked to religious values. The choice of calligraphy words, such as Allah or Muhammad, requires students to be more careful and respect the meaning of the religious symbols depicted in their work. Thus, the creativity that develops is not freewheeling and directionless, but remains within the framework of Islamic values, which emphasize precision, sincerity, and respect for religious symbols.

This activity demonstrates that art learning in madrasas need not be passive or simply based on imitation, but can be developed into challenging and meaningful creative learning. *Eco-calligraphy* provides a space for students to express themselves while fostering awareness that creativity can grow from limited materials and conditions, including through the utilization of waste found around the school.

Strengthening Motor and Collaborative Skills

The process of converting cardboard waste into *eco-calligraphy* products requires fine motor skills, hand-eye coordination, and the ability to follow patterns precisely. Activities such as cutting cardboard according to Arabic letter patterns, attaching layers of material, and coloring details require directed and repetitive movement control. This condition is in line with the theory of cognitive and motor development proposed by Piaget, who explains that elementary school-aged children are in the concrete operational stage, where fine motor development can be enhanced through manipulative activities and direct practice such as cutting, drawing, and assembling (Piaget, 1972; Santrock, 2018).

Observations show that during *eco-calligraphy* activities, students experienced increased accuracy and patience in completing tasks. They learned to adjust hand pressure when cutting cardboard, arrange letter composition, and ensure neat and symmetrical pasting. These findings reinforce the view that *art-based learning* and manual skills not only impact aesthetic aspects but also contribute significantly to the development of fine motor skills in elementary school students (Sumantri, 2019). Thus, *eco-calligraphy* serves as a learning medium that supports both *physical-motor* and *cognitive development*.

In addition to the motoric aspects, *eco-calligraphy activities* also demonstrate the strengthening of students' collaborative skills. The process of working on the work is carried out in pairs or small groups, so that students are accustomed to discussing, sharing tasks, and helping each other in completing each stage of the activity. This collaborative work pattern creates positive social interactions, such as the ability to listen to friends' opinions, agree on color choices, and work together to complete the product on time. This condition aligns with Vygotsky's social learning theory, which emphasizes

that social interaction plays a vital role in the development of children's cognitive and social abilities (Vygotsky, 1978).

The findings of this study also align with those of Nurhayati and Suryani, who demonstrated that *recycling-based* arts activities can enhance cooperation, responsibility, and coordination among students. In the context of MI Al-Hidayah, collaboration is not only technical but also educational, as students learn to appreciate the differences in ideas and abilities of their peers. This type of collaborative learning contributes to the development of social character traits such as empathy, tolerance, and mutual respect, which are essential to the goals of madrasah education (Nurhayati & Suryani, 2021).

Thus, eco-calligraphy activities not only improve students' fine motor skills but also serve as a means of reinforcing meaningful collaborative learning. The integration of art activities, group work, and waste utilization makes *eco-calligraphy* a relevant contextual learning model for developing 21st-century skills, particularly students' collaboration, communication, and social coordination abilities.

The strengthening of fine motor skills acquired through eco-calligraphy activities not only impacts students' physical abilities but also boosts their confidence in completing other tasks requiring precision. Students who were initially hesitant about using scissors or coloring tools gradually showed increased confidence and skill after several sessions. This process demonstrates that *practice-based learning* provides ample opportunities for students to learn through direct experience.

Furthermore, group work in *eco-calligraphy* activities provides meaningful social experiences for students. Assigning tasks within groups, such as *drawing patterns*, *cutting cardboard*, and *coloring*, teaches students to be responsible for their respective roles. When disagreements arise, students learn to resolve them through simple discussions under teacher guidance. This pattern of interaction helps students develop natural communication and collaboration skills.

In the context of elementary education, strengthening collaborative skills is crucial because it equips students with the social skills they need in everyday life. The eco-calligraphy activity demonstrates that learning arts and crafts can be an effective means of *fostering mutual assistance, tolerance, and shared responsibility*, which aligns with the goals of character education in madrasahs.

Student Edupreneurship: Understanding Pricing, Product Value, and Promotion

Eco-calligraphy activities not only involve elements of art and creativity, but also integrate aspects of edupreneurship relevant to contextual learning in madrasahs. Through this activity, students are introduced to basic entrepreneurial concepts such as pricing, understanding product value, and simple promotional strategies. This process provides a *real-life learning* experience because students are directly involved in all stages of production through to marketing. This condition aligns with the concept of edupreneurship proposed by Purwana, who emphasizes that entrepreneurship learning will be

more effective when carried out through direct experience (*learning by doing*), so that students are able to understand economic processes in an applicable and contextual manner (Purwana, 2017).

Based on the results of the activity, students were able to determine the selling price of *eco-calligraphy* products in the range of Rp 8,000–15,000, taking into account the size of the work, the level of difficulty of creation, and the aesthetic quality of the product. This ability shows that students are beginning to understand the concept of added value, namely how simple materials such as cardboard waste can be processed into products with economic value. The process of price determination discussions carried out with teachers and peers also fostered logical thinking skills and simple decision-making in the context of entrepreneurship.

In addition to pricing, *eco-calligraphy* activities also involve simple promotional strategies, such as displaying work in class, participating in school exhibitions, and offering products to the school community. These activities train students' courage in communicating and introducing their work to others. These findings support the view that early entrepreneurship education can improve students' *self-confidence*, *communication skills*, and *sense of responsibility for their work* (Fayolle & Gailly, 2015).

The results of this study align with Nurjayadi's findings, which state that student involvement in school entrepreneurial activities can improve *economic literacy*, *independence*, and *self-confidence*. In the context of MI Al-Hidayah, *eco-calligraphy*-based edupreunership has the advantage of not only teaching economic aspects but also integrating Islamic values such as honesty, responsibility, and hard work. Thus, this activity contributes to the formation of ethical entrepreneurial character based on Qur'anic values (Nurjayadi, 2019). Overall, the *eco-calligraphy* activity, as a medium for edupreunership, provides a holistic learning experience, combining creativity, economic skills, and character building. This approach demonstrates that entrepreneurship learning in madrasas can be simple yet meaningful, leveraging local potential and instilling religious values from an early age.

The implementation of edupreunership through *eco-calligraphy* activities provides students with an initial experience in understanding the concept of work and the value of entrepreneurship. Students begin to realize that a product's value lies not only in the materials used, but also in the process, creativity, and perseverance that accompany it. This awareness lays an important foundation for developing an attitude of respect for hard work and a respect for one's own work or that of others.

Through pricing discussions, students also learn that every economic decision involves specific considerations. The teacher acts as a facilitator, guiding students to consider the size, difficulty level, and neatness of a product before determining its selling price. This process trains students to think rationally and objectively when evaluating their work, even on a modest scale.

Eco-calligraphy-based edupreunership learning demonstrates that introducing entrepreneurship doesn't have to involve complex theories.

Instead, through simple, hands-on activities, entrepreneurial values such as independence, responsibility, and honesty can be instilled more effectively and sustainably.

Impact of Activities on Learning Interest and Motivation

Based on the observations and data presented in Figure 3, eco-calligraphy activities based on the utilization of cardboard waste have been shown to have a positive impact on increasing student interest and motivation in learning. The graph shows an increase in student participation in the learning process, characterized by active involvement, high enthusiasm, and commitment to completing *eco-calligraphy* products to the final stage. This condition indicates that creative and contextual learning can create a more meaningful learning atmosphere than conventional learning.

Increasing student learning motivation is inseparable from a sense of ownership over the work they produce. Students feel proud of the eco-calligraphy products they create because they have a tangible form and can be used directly. This finding aligns with the theory of intrinsic motivation proposed by Munandar, which states that learning activities that produce concrete products and provide successful experiences can increase students' intrinsic motivation (Munandar, 2016). Through *eco-calligraphy* activities, students not only learn to complete tasks but also experience personal satisfaction from the results of their work.

Furthermore, field conditions indicate that students' learning motivation increases when they learn that eco-calligraphy works can be exhibited or sold during school activities. This aspect of appreciation and social recognition is a significant driving factor in increasing students' enthusiasm for learning. This aligns with Deci and Ryan's motivational theory, which emphasizes that learning motivation increases when individuals feel competent, valued, and have autonomy in the learning process. *Eco-calligraphy* activities provide space for students to make their own decisions, express ideas, and receive recognition for their work (Deci & Ryan, 2000).

The findings of this study are also supported by the results of previous studies which stated that project-based learning and real products can increase students' interest in learning, activeness, and emotional involvement in learning (Bell, 2010; Hidi & Renninger, 2006). In the context of MI Al-Hidayah, eco-calligraphy activities create a fun and meaningful learning experience, so that students do not only act as recipients of material, but as active actors in the learning process.

Thus, *eco-calligraphy* activities can be viewed as an effective learning strategy to increase students' interest and motivation to learn. The integration of creativity, entrepreneurship, and environmental awareness makes this activity relevant to the needs of 21st-century learning and supports the creation of an active, participatory learning process that is oriented toward developing students' potential holistically.

The increased learning motivation seen during the eco-calligraphy activity also impacted students' attitudes toward the learning process in

general. Students who previously tended to be passive showed increased participation when engaged in practical activities that produced tangible products. This demonstrates that a variety of learning methods plays a crucial role in maintaining student learning interest at the elementary level.

Eco-calligraphy activities provide a different learning experience than conventional classroom instruction. Students don't just sit and listen to teacher explanations, but are directly involved in activities that require creativity and skill. This creates a more enjoyable learning environment and reduces boredom with the daily learning routine.

Thus, *eco-calligraphy* can be viewed as an alternative learning strategy capable of sustainably increasing student motivation. This kind of meaningful and contextual learning has the potential to be applied to other subjects to create a more active and participatory learning environment.

Utilizing Waste as an Environmentally Friendly Learning Medium

The use of cardboard waste as a learning medium for *eco-calligraphy* aligns with the concept of environmental education, which emphasizes the principles of *reduce, reuse, and recycle (3R)*. Through this approach, students are not only introduced to the theoretical concept of environmental conservation but also directly involved in practical waste management practices. This type of learning is considered effective because it connects environmental knowledge with students' real-life experiences, particularly in the school environment.

The results of the activity showed that students began to understand that cardboard waste, previously considered useless, can be processed into products with aesthetic and economic value. This understanding fostered awareness that waste is not merely something to be discarded, but rather a resource that can be utilized creatively. This finding aligns with Khairunnisa's research, which states that creative recycling-based learning can increase students' environmental awareness and foster a responsible attitude towards waste management from an early age (Khairunnisa, 2020).

In addition to raising ecological awareness, *eco-calligraphy* activities also contribute to the formation of environmental awareness through the instilling of environmentally friendly behaviors in schools. Students are accustomed to collecting used cardboard, sorting out materials that are still usable, and reusing the waste in learning activities. This process aligns with the *ecopedagogy* approach, which emphasizes the importance of environmental education based on experience, values, and concrete actions (Supriatna, 2016). Thus, *eco-calligraphy* serves not only as a medium for learning art and entrepreneurship, but also as a means of internalizing ecological values.

In the context of MI Al-Hidayah, the utilization of cardboard waste is also relevant to Islamic values that teach the principles of simplicity, usefulness, and the prohibition of causing damage to the earth (*fasād fī al-ardd*). The integration of environmental education and Qur'anic values gives *eco-calligraphy* activities a strong spiritual dimension. This supports the view that environmental education in madrasas needs to be developed in an integrative

manner, not only oriented towards cognitive aspects, but also the formation of religious character and environmental ethics of students (Aziz, 2018).

Thus, utilizing cardboard waste as an environmentally friendly learning medium through eco-calligraphy activities has proven effective in instilling ecological awareness, environmental stewardship, and an understanding of sustainability. This approach demonstrates that environmental education can be implemented simply yet meaningfully through the integration of art, entrepreneurship, and Islamic values into madrasah learning.

Utilizing cardboard waste in *eco-calligraphy* activities also has a long-term impact on students' perspectives on the environment. Students become accustomed to not immediately throwing away used items, but instead considering the possibility of reusing them. This habit is the first step in developing environmentally friendly behavior that can be carried beyond the school environment.

Through this activity, students also learn that protecting the environment doesn't always require grand gestures, but can start with simple, consistent activities. The experience of transforming waste into artwork provides a concrete understanding of the importance of sustainability and wise resource management.

In the context of madrasah education, integrating environmental values with Islamic values strengthens the moral message being conveyed. Eco-calligraphy serves as a learning medium that not only teaches skills but also instills an awareness that protecting the environment is part of humanity's responsibility as caliphs on earth.

Activity Results

The *Eco-Calligraphy* activity, which utilizes cardboard waste as a medium for edupreunership at MI Al-Hidayah, demonstrated that students are capable of producing creative, attractive, and marketable calligraphy. The resulting work not only displays aesthetic elements but also reflects the students' creativity in utilizing waste materials to create useful and economically valuable products.

The *eco-calligraphy* activity is carried out through several systematic stages. The first stage involves collecting used cardboard from the school environment and students' homes. The collected cardboard is then sorted by thickness and material condition to ensure its suitability as a medium for artwork. This stage trains students to recognize the characteristics of materials and cultivates a selective attitude toward reusable waste.

The next stage is creating the calligraphy pattern. At this stage, students determine the wording or form of the calligraphy they wish to create, then draw the pattern on the cardboard surface before cutting it. This process demonstrates students' ability to follow the pattern, adjust the size, and arrange the composition of the letterforms to ensure they look proportional. Each student produces a different calligraphy pattern, both in terms of shape and size, resulting in varied and non-uniform work.

The coloring stage begins after the *calligraphy* pattern is formed. Students use poster paint and acrylic paint in various color combinations, tailored to their individual creativity. Observations show that students are able to combine colors freely and expressively, resulting in visually appealing calligraphy. This stage is crucial for enhancing the appeal of the resulting product.

The final stage is finishing, the process of perfecting the work to make it suitable for exhibition and marketing. At this stage, students correct any imperfections, add supporting decorations, and ensure the product is ready for use or sale. The final eco-calligraphy product demonstrates considerable quality for an elementary school student's work, both in terms of neatness, beauty, and durability.

Overall, the results of the activity demonstrated that students were not only able to produce waste-based artwork but also understood the economic potential of such work. The resulting eco-calligraphy products demonstrate that cardboard waste can be utilized as an effective and contextual learning medium for edupreneurship at MI Al-Hidayah.

Activity Result Output:

The *Eco-Calligraphy* activity produced several key outcomes that directly contributed to the development of creativity, motor skills, and entrepreneurial abilities of students at MI Al-Hidayah. The first outcome was an eco-calligraphy product made from used cardboard, processed into a calligraphy artwork with an aesthetic, neat appearance, and functional value. The use of cardboard waste as the main material demonstrates that learning media does not have to be sourced from expensive materials, but can come from the surrounding environment, processed creatively and planned. The resulting product also demonstrates the students' success in combining artistic elements, precision, and religious values in a single complete work.

The second outcome is improved fine motor skills and student creativity. During the eco-calligraphy creation process, students are actively involved in various activities such as cutting cardboard according to patterns, attaching parts of the calligraphy letters, coloring, and the final finishing stage. This series of activities trains students' hand-eye coordination, precision, and patience in completing the task step by step. Furthermore, students are given freedom to choose colors, motifs, and additional decorations, thus encouraging individual expression and the development of creativity according to their individual characteristics.

The next outcome is the development of edupreneurship skills in students. Through the *Eco-Calligraphy* activity, students not only learn to create products but are also introduced to the basic concepts of entrepreneurship in a simple and contextual way. Students are involved in the process of determining the selling price by considering the size, level of complexity, and quality of the work. In addition, students also learn simple promotion by offering products to teachers, friends, or the school community. The resulting eco-calligraphy products are declared marketable with a price

range of Rp 8,000–15,000, indicating that students have been able to understand the economic value of their own creations.

The *Eco-Calligraphy* activity also had a positive impact on increasing student enthusiasm and participation in the learning process. Students demonstrated high levels of engagement throughout the activity, evident in their active participation in questions, discussions, and dedication to completing each stage of the project. A sense of pride in the products they produced, which could be exhibited or sold, fostered intrinsic motivation in students to study more seriously and responsibly. Thus, *Eco-Calligraphy* activities not only produce output in the form of physical products, but also form positive attitudes, enthusiasm for learning, and meaningful experiences that support students' holistic development.



Figure 1. The process of students forming calligraphy patterns from cardboard.

Explanation in narrative:

Figure 1 shows the implementation of the *Eco-Calligraphy* activity at the stage of forming calligraphy patterns by students. At this stage, students follow the design examples provided by the teacher, then cut cardboard waste according to the specified Arabic letter pattern. The *pattern-forming* process involves the skills of cutting, pasting, and arranging the composition of shapes to produce complete and proportional calligraphy letters. This *activity trains students' precision, patience, and creativity in transforming cardboard waste into a learning medium with educational and aesthetic value.*



Figure 2. Eco-Calligraphy Product Results After Going Through the Coloring Stage

Explanation in narrative:

Figure 2 shows the final results of Eco-Calligraphy products produced by students using cardboard waste as the primary medium. The products displayed exhibit a variety of colors, motifs, and calligraphy shapes, reflecting the creativity and individual expression of each student. Each work has distinct characteristics, both in terms of color composition, neatness of letterforms, and supporting decorations used. Visually, the *eco-calligraphy* products appear neat, attractive, and have aesthetic value, making them suitable for marketing as madrasah edupreneurship products.



Figure 3. Photo documentation with students and teachers

Explanation in narrative:

Figure 3 shows a group photo documentation of students and teachers after the implementation of the *Eco-Calligraphy* activity based on the utilization of cardboard waste. The photo reflects the atmosphere of togetherness, enthusiasm, and satisfaction of the students after successfully completing the entire series of activities. The students' cheerful expressions and the teachers' involvement in the documentation indicate that this activity was received positively and was able to create a pleasant learning experience. This documentation is evidence that the *Eco-Calligraphy* activity not only impacts the results of the work, but also builds *social interaction*, togetherness, and student motivation in participating in *practice-based learning*.

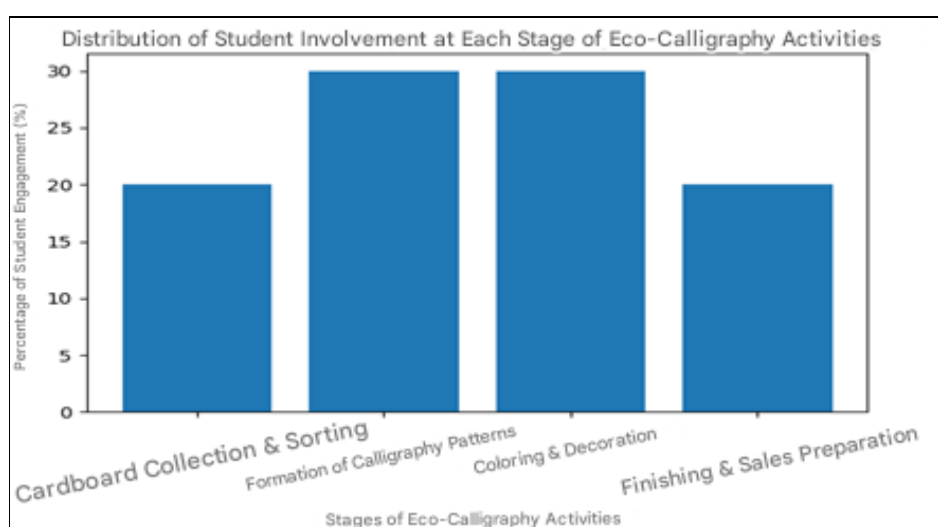


Figure 4. Distribution Graph of Student Involvement at Each Stage of Eco-Calligraphy Activities

Explanation in narrative:

Figure 4 shows the distribution of student involvement at each stage of the *Eco-Calligraphy* activity, from collecting and sorting cardboard, forming calligraphy patterns, coloring and decorating, to the finishing and preparation stages for sale. Student involvement appears to be highest at the pattern formation and coloring stages, as at these stages students have more room to express their creativity, determine designs, and combine colors according to their individual ideas. Meanwhile, the material collection and finishing stages show relatively lower involvement due to their technical and structured nature. These findings indicate that the creative stages in *eco-calligraphy* play an important role in increasing active student participation and strengthening experiential learning (*learning by doing*).

Table 1. Summary of *Eco-Calligraphy Products* and *Selling Prices*

No	Types of products	Size	Number of Products	Selling Price (Rp)
1	Short Verse Calligraphy Pattern	15×20 cm	18 pieces	8,000
2	Calligraphy of the Word of Allah	20×30 cm	12 pieces	12,000
3	Calligraphy of the Word of Muhammad	20×30 cm	10 pieces	12,000
4	Decorative Calligraphy Pattern	25×35 cm	6 pieces	15,000

Table 1 presents a summary of the types of *Eco-Calligraphy* products produced by MI Al-Hidayah students, along with their sizes, quantity, and selling prices. Based on this data, it can be seen that the *Eco-Calligraphy* activity produced a total of 46 products with varying shapes and sizes. This variation demonstrates the diversity of students' creativity in transforming cardboard waste into calligraphy artworks with aesthetic and economic value.

The most popular product is the 15x20 cm short verse calligraphy pattern, with 18 pieces sold for Rp 8,000 each. This relatively high number is due to the simpler production difficulty and smaller size, allowing students to complete the product in a shorter time. Despite its affordable price, this product remains in demand due to its religious value and attractive visual appearance.

The calligraphy products for the word Allah and the word Muhammad were produced in 12 and 10 pieces, respectively, measuring 20x30 cm and selling for Rp 12,000 per product. Products in this category showed an increase in sales value influenced by the larger size and a higher level of precision in the letter formation and coloring process. This reflects the students' understanding that the quality, size, and level of complexity of the work influence the determination of the product's selling price.

Meanwhile, the 25x35 cm decorative calligraphy product was produced in the smallest quantity, namely 6 pieces, but had the highest selling price of Rp 15,000. This lower quantity is related to the higher level of difficulty and longer production time. The higher selling price indicates that students are able to recognize the added value of products with larger sizes and more complex designs.

Overall, the data in Table 1 shows that students were able to classify products based on size and difficulty level, as well as determine selling prices rationally. This indicates a growing understanding of basic edupreneurship, particularly in aspects of production, product value assessment, and simple

economic decision-making. Thus, the *Eco-Calligraphy* activity not only produced waste-based artwork but also provided students with real-world experience in applying entrepreneurial concepts contextually within the school environment.

Analysis of Income Potential and Implications of Edupreneurship

Based on the data in Table 1, the total number of *Eco-Calligraphy* products produced by students is 46, with selling prices varying between Rp 8,000 and Rp 15,000. If all of these products are sold, the *Eco-Calligraphy* activity has the potential to generate significant gross income for a learning activity at the elementary madrasah level. Estimated income can be calculated by multiplying the number of products by the selling price of each category .

Eighteen short verse calligraphy patterns priced at Rp 8,000 have the potential to generate revenue of Rp 144,000. Twelve Allah calligraphy products and ten Muhammad calligraphy products, priced at Rp 12,000, have the potential to generate revenue of Rp 144,000 and Rp 120,000, respectively. Meanwhile, six large decorative calligraphy patterns priced at Rp 15,000 have the potential to generate Rp 90,000. Thus, the total potential revenue from all Eco-Calligraphy products reaches Rp 498,000.

This potential income demonstrates that the Eco-Calligraphy activity is not only educational but also has real economic value. While the primary goal of this activity isn't solely financial gain, the students' experience in producing a marketable product provides meaningful lessons about simple economic processes. Students learn that a product has market value if it meets the criteria of quality, aesthetics, and utility.

Furthermore, the pricing discussions conducted with teachers provide students with an understanding of the basic concepts of cost, effort, and added value. Cardboard waste, initially without economic value, can be transformed into a marketable product through creativity and skill. This understanding provides a crucial foundation for instilling an entrepreneurial spirit from an early age.

From an edupreneurship perspective, the results of this activity demonstrate that students have mastered the basic stages of entrepreneurship, from production and quality assessment to pricing and sales simulations. This experience strengthens students' life skills, such as responsibility for their work, confidence in product marketing, and the ability to communicate with potential buyers.

Thus, the analysis of the potential revenue from *Eco-Calligraphy* products confirms that this activity is effective as a learning medium for practice-based edupreneurship. This activity can be further developed as a sustainable program in schools, for example through school bazaars or student work exhibitions, so that its educational and economic benefits can be felt more widely.

CONCLUSION

Research on the *Eco-Calligraphy* activity utilizing cardboard waste as a medium for edupreneurship at MI Al-Hidayah shows that this program is effective in improving students' creativity, fine motor skills, and entrepreneurial insight, as demonstrated by their ability to produce marketable calligraphy products with varied shapes, aesthetic qualities, and price ranges. The findings indicate that utilizing waste as a *learning medium fosters productive character, independence, and environmental awareness*, aligning with the concept of *project-based learning* and the *edupreneurship* approach that *emphasizes contextual and meaningful learning experiences*.

Therefore, further research is recommended to develop a more comprehensive edupreneurship evaluation model and involve collaboration with external parties to optimize marketing potential. Overall, the *Eco-Calligraphy* activity provides *pedagogical, creative, and economic benefits*, and has implications for curriculum development in *Islamic elementary schools* by supporting *edupreneurship-based learning that integrates artistic creativity, environmental awareness, and Islamic values*.

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