



THE APPLICATION OF GLAZING AND PAINTING TECHNIQUES FOR COLORING CERAMIC TABLEWARE

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ABSTRACT

This study explores the application of glazing and underglaze painting techniques in the creation of ceramic tableware inspired by the aesthetic qualities of plant forms. The research adopts a practice-based artistic approach consisting of observation, exploration, and material embodiment in ceramic media. The artworks produced include a series of functional tableware items, specifically three cups and three bowls, created using wheel-throwing and handbuilding techniques. Surface decoration was developed through carving and coloring processes that combine underglaze painting and glaze finishing to produce varied visual effects. The findings demonstrate that the integration of multiple coloring techniques enhances both the aesthetic quality and functional value of ceramic tableware. This study contributes to the development of creative strategies in ceramic art practice, particularly in the exploration of decorative surface treatments.

1. INTRODUCTION

In engaging in various activities, humans inherently possess the desire to fulfill their basic needs. To satisfy these needs, people require a wide range of goods and services. Human life is inseparable from products and decoration, as both have become essential components of daily living. Beyond the functional necessity of products, individuals also seek aesthetic value, which underscores the significant role of decoration.

Ceramic art is a form of artistic expression that has been known since the Neolithic era, as evidenced by the discovery of pottery shards found in the shell mounds of Sumatra. According to the Indonesian Ministry of Education and Culture, ceramic art refers to handmade artworks created using clay as the primary material. The term "ceramic" is derived from the Greek word "keramos", which means earthenware or objects made from clay that have undergone a firing process. Clay possesses plastic properties, making it highly malleable and thus easily shaped according to the artist's intentions. However,



this plasticity also renders clay fragile and prone to deformation when impacted, which necessitates the firing process to preserve the form of the final work [1].

There are two primary techniques used in ceramic creation: handbuilding and throwing. Handbuilding refers to the manual crafting of ceramic objects, relying solely on the skill of the hands. Several techniques are commonly employed in handbuilding, including pinching, coiling, and slab construction. In contrast, the throwing technique involves the use of a pottery wheel. In this method, the artist shapes the clay while it spins on a rotating wheel, allowing for more symmetrical and refined forms [2].

During the internship/practical work program, the most frequently encountered ceramic products were tableware items. Tableware refers to dining utensils used on a table, including bowls, plates, and cups. The term originates from the English words "table," meaning a piece of furniture for meals, and "ware," referring to items or goods. The focus of the discussion is on ceramic tableware that takes the form of bowls, plates, and drinking vessels [3].

The design process is inherently intertwined with the act of creation, as design plays a critical role in imbuing products with meaning. Within the visual arts, design is crucial in expressing a vast range of stylistic, thematic, and conceptual diversity. Therefore, adding decorative elements to functional objects is a compelling way to enhance their aesthetic value [4].

Throughout the internship at a ceramic studio, the author engaged in observational learning, which fostered inspiration for exploration and experimentation with ceramic materials. Tableware ceramics are frequently used in everyday life, which motivated the author to create functional ceramic items with unique decorations and experimental color applications. This process aimed to achieve distinctive visual qualities such as color, design, and pattern that set the work apart from conventional ceramic products commonly found in the market.

This study focuses on the application of glazing and underglaze painting techniques in the creation of ceramic tableware inspired by natural plant forms. The research aims to explore how the combination of these coloring techniques can enhance the visual characteristics of ceramic works while maintaining their functional performance.

2. METHODS

In the process of creating an artwork, there are several essential steps that must be followed to achieve an optimal final result. After conducting observations, inspiration and ideas for the creation of the artwork were obtained. The steps involved in the production process include material preparation, ceramic forming, and coloring. Each of these stages plays a crucial role in supporting the successful completion of the ceramic work. The following is a detailed explanation of each step.

2.1. Material Preparation

Before entering the forming stage, material preparation is essential to ensure a smooth production process. At Mrs. Potter Studio, the most commonly used clay is stoneware clay, which possesses specific properties suitable for high-temperature firing. This type of clay is favored for its durability and strength after firing [5].

A crucial step prior to forming is the wedging of the clay. Wedging serves to remove air bubbles trapped within the clay body, thereby reducing the risk of cracking or breaking during the firing process. This

process involves repeatedly folding and rolling the clay to create multiple layers, ensuring uniform consistency and elasticity.

2.2. Ceramic Forming Techniques

In ceramic production, various techniques are employed to shape the material. The two most frequently used are throwing and handbuilding, both of which are adapted according to the desired form and function of the final product.

The throwing technique involves shaping the clay using a pottery wheel, allowing for the creation of symmetrical and refined forms. In contrast, the handbuilding technique utilizes the hands, fingers, and simple tools to shape the clay manually.

Following the throwing process, the next step is known as trimming, which is performed to refine and even out the form. This is achieved using carving tools to gradually remove excess clay from the surface while the piece is still on the wheel. Author had decided to combine handbuilding dan throwing techniques to create more complex and visually engaging ceramic works.

2.3. Ceramic Coloring Techniques

The coloring techniques used in the creation of the artworks included the painting technique using underglaze and the glazing technique. The author chose to apply both methods to simultaneously present artistic illustrations and achieve melting color effects through glaze combinations on the surface of the ceramic pieces.

2.3.1. Painting with Underglaze

Painting on ceramics can be done using underglaze paints, which are specifically formulated to withstand high firing temperatures. The painting process with underglaze is similar to using conventional paints; however, the key difference lies in the chemical properties of the paint. Underglaze colors often appear pale or muted before firing, but after the firing process, the true colors emerge more vividly and become significantly brighter.

2.3.2. Glazing

Glazing is a coloring technique for ceramic works, made from a mixture of quartz, lime, and coloring oxides such as iron or copper. Glaze serves not only as a coloring medium but also as a glossy, glass-like coating that enhances both the aesthetic and functional qualities of ceramic, particularly its water resistance. Glaze is a suspension of finely ground minerals that can be applied to bisque-fired ceramics through pouring, brushing, dipping, or spraying.

The essential prerequisite for glazing is bisque-fired ceramics that have undergone a preliminary firing at temperatures between 700°C and 900°C. If the firing temperature is below 700°C, the ceramic remains too fragile for glaze application. Conversely, firing above 900°C may result in the clay becoming too vitrified, reducing its porosity and making it less receptive to glaze absorption. The final glaze firing must be adjusted according to the type of glaze used, as each glaze reacts differently under heat. For low-fire glazes, the firing temperature ranges from 1,000°C to 1,150°C. For mid-fire glazes, firing occurs at approximately 1,200°C to 1,250°C. A properly matured glaze results in a glossy, glass-like surface [6].

2.4. Finishing Process

The finishing process involves a final inspection to ensure that the ceramic piece is free from cracks, sharp edges, stains, or other imperfections. This stage is crucial for enhancing the product's quality, visual appeal, and durability.

The most common finishing procedure involves smoothing the base of ceramic items. Pieces freshly removed from the kiln often retain residual kiln wash on the underside, leading to uneven surfaces. To address this, the base is typically sanded. In cases where the kiln wash is particularly stubborn, a rotary grinder (tuner) may be used to facilitate the removal process.

2.5. Data Collection

Data collection was carried out through interviews and observations. The following are explanations of the research sources and methods used:

2.5.1. Interviews

Data and information were gathered through interviews conducted with studio staff and the studio owner. These interviews aimed to support the completion of the internship/practical work report and to assist in the execution of the field project.

2.5.2. Observation

Observation was conducted by the student through direct involvement in studio activities, working alongside staff on various projects. This hands-on experience enabled the student to obtain relevant data and insights through active participation in the field.

3. RESULTS AND DISCUSSION



Figure 1. Pottery Creation by Angeline
[Source: Angeline Immanuel Sanusi, 2025]

After completing the stages of observation, exploration, and material realization, the artist produced a series of ceramic tableware consisting of three cups and three bowls inspired by the theme “The Beauty of Nature That Must Be Preserved.” These works integrate functional design with decorative surface treatment through the application of underglaze painting and glaze finishing techniques. The discussion below analyzes each artwork in terms of visual concept, aesthetic characteristics, and technical execution.

The creative process demonstrates how natural plant elements can be transformed into decorative motifs on functional ceramic objects. Through the combination of carving, painting, and glazing techniques, the resulting works present varied textures, color harmonies, and symbolic meanings related to environmental awareness and the appreciation of natural beauty. Each piece reflects an exploration of form and surface treatment that balances artistic expression with practical usability.

3.1.1. Pretty Simple Leaves



Figure 2. Pretty Simple Leaves
[Source: Angeline Immanuel Sanusi, 2025]

Media: Ceramic
Size: 9 cm x 7 cm
Year: 2025

Description: This artwork explores the visual simplicity of leaf forms as a source of decorative inspiration. Leaves, which are commonly perceived as ordinary elements in nature, are reinterpreted into stylized motifs applied to the ceramic surface. The repetition of leaf patterns creates a rhythmic visual composition that emphasizes harmony and balance.

From a technical perspective, the surface decoration was developed using underglaze painting combined with transparent glaze finishing. The use of soft green tones enhances the naturalistic character of the design while maintaining visual clarity and functional durability. The integration of decorative imagery with a functional ceramic form demonstrates the potential of simple natural elements to generate meaningful aesthetic expressions.

3.1.2. Tree and Sweet Fruits



Figure 3. Tree and Sweet Fruits
[Source: Angeline Immanuel Sanusi, 2025]

Media: Ceramic

Size: 10,5 cm x 7 cm x 7,5 cm

Year: 2025

Description: The artwork titled Tree and Sweet Fruits represents the concept of growth and productivity in nature. The depiction of fruit-bearing trees symbolizes abundance and sustainability, reflecting the relationship between humans and natural resources. The composition emphasizes organic shapes and curved lines that visually communicate vitality and movement.

Technically, the ceramic form was produced using the wheel-throwing technique to achieve structural symmetry, followed by handbuilding processes to refine specific details. The application of multiple glaze colors creates a dynamic visual effect through subtle variations in tone and texture. This combination of techniques contributes to the expressive quality of the work while ensuring the functional performance of the tableware.

3.1.3. Garden Party



Figure 4. Garden Party

[Source: Angeline Immanuel Sanusi, 2025]

Media: Ceramic

Size: 10,5 cm x 7 cm x 6,5 cm

Year: 2025

Description: The artwork Garden Party presents a visual metaphor of a lively natural environment filled with diverse plant forms. The decorative motifs depict vegetation arranged in a dynamic composition that suggests movement and interaction within a garden setting. This conceptual approach reflects the idea that natural ecosystems function as interconnected systems that support environmental balance.

The aesthetic character of the work is strengthened by the use of contrasting colors and layered glaze applications. The combination of painting and glazing techniques produces depth and visual richness on the ceramic surface. These technical strategies contribute to the creation of a visually engaging object that integrates decorative complexity with functional design.

3.1.4. Little Wild Plants



Figure 5. Little Wild Plants

[Source: Angeline Immanuel Sanusi, 2025]

Media: Ceramic

Size: 9 cm x 5 cm

Year: 2025

Description: This artwork highlights the resilience of wild plants that grow naturally in open environments. The visual concept emphasizes adaptability and survival, representing plants as living organisms capable of thriving under various environmental conditions. The decorative motifs were designed using simplified plant forms to convey a sense of spontaneity and natural growth.

The technical execution involved surface carving to create subtle textural variations, followed by the application of underglaze painting to define the decorative elements. The final glaze layer provides a protective coating that enhances the durability and visual quality of the ceramic surface. This process demonstrates the importance of combining artistic creativity with technical precision in ceramic production.

3.1.5. Watering Plants



Figure 6. Watering Plants

[Source: Angeline Immanuel Sanusi, 2025]

Media: Ceramic

Size: 8,5 cm x 4 cm

Year: 2025

Description: The artwork Watering Plants focuses on the essential role of water in sustaining plant life. The visual narrative illustrates the interaction between water and vegetation as a fundamental component of ecological systems. This thematic approach reflects environmental awareness and emphasizes the importance of maintaining natural resources.

From a technical standpoint, the coloring process involved the careful application of glaze to produce a smooth and reflective surface. The use of blue and green tones symbolically represents water and plant life, creating visual coherence between the concept and the material treatment. The resulting ceramic object demonstrates how thematic ideas can be effectively communicated through color and form.

3.1.6. Lively Tree Trunk



Figure 7. Lively Tree Trunk

[Source: Angeline Immanuel Sanusi, 2025]

Media: Ceramic
Size: 8 cm x 7 cm
Year: 2025

Description: The artwork Lively Tree Trunk explores the structural strength and vitality of trees as central elements in natural ecosystems. The decorative design focuses on the texture of tree bark, which was translated into carved patterns on the ceramic surface. This approach highlights the tactile qualities of ceramic material while reinforcing the visual theme of natural growth.

The technical process involved combining carving techniques with layered glaze applications to create depth and dimensionality. The resulting texture enhances the sensory experience of the object and contributes to its aesthetic value. This work illustrates how surface treatment techniques can be used to emphasize both visual and tactile characteristics in ceramic design.

4. CONCLUSION

The application of glazing and underglaze painting techniques in ceramic tableware production demonstrates significant potential for enhancing both aesthetic quality and functional performance. The integration of wheel-throwing and handbuilding techniques enables the creation of structurally stable forms, while surface decoration through painting and glazing contributes to visual diversity and artistic expression.

This study confirms that the combination of multiple coloring techniques can produce distinctive visual effects that strengthen the artistic identity of ceramic products. Furthermore, the practice-based creative process provides valuable insights into the technical and conceptual development of contemporary ceramic design.

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