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## EXPLORING THE AESTHETIC AND TECHNICAL ART OF NOK TERRACOTTA RELIEF MODELLING AS VISUAL TOOLS FOR MOOD DISORDER MANAGEMENT

Esther DOKYOUNG<sup>1</sup>, Abdullahi UMAR<sup>1</sup>, Y. O. SADIQ<sup>1</sup>, Danladi MUNAI<sup>1</sup>

Moses AUDU<sup>3</sup>

1. Department of Industrial Design, Abubakar Tafawa Balewa University, Bauchi, Nigeria

2. Department of Industrial Design, Modibbo Adama University Yola,  
Adamawa State, Nigeria

3. Department of Psychiatry, Jos University Teaching Hospital, Jos, Plateau, Nigeria

[dokyoung@mautech.edu.ng](mailto:dokyoung@mautech.edu.ng)

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### Abstract

*Ceramics has been found to be valuable and efficient in fostering physical and mental engagements which sustain motor, process skills and improved health but its practice is grossly limited at most mental health facilities in Nigeria. With the rising rates of mental disorders, now a public health issue, the absence of studies, indigenous instructional guides, and requisite knowledge on ceramic applications for mood disorder management is a glaring void. The need to document indigenous ceramic processes and procedures with hands-on participation, emergent materials and definable end product may contribute to literature and practice. Concerned about the disappearing Nok Terracotta culture, and the indelible mark Nok Terracotta has made in the foundation of Nigerian art forms and practice, becomes the criterion for its choice to revitalize ceramics and Nok continuity. This research explores making/doing as critical design research methodology through a series of material experiments and design projects on Nok relief as a tool for mood disorder management. This exploration into Nok Terracotta relief modeling exposes the aesthetic, technical, and physical contexts of Nok as the first step undertaken in the study of ceramics in mood disorders. The research used observation and reflection on live performance, exploratory studio work and the physical presentation of fired Nok relief models. The Nok models and live performances by the researcher in recorded videos, and written text were designed to convey simple, replicable and adaptable production procedures to enhance observational skills for reproduction, and thereby boost the self-efficacy of persons with mood disorders at three mental health facilities in Jos, Nigeria. Qualitative research method was utilized to analyse the technical aspects of Nok Terracotta relief modeling, and the aesthetic quality of the performance, assemblage and adaptation of Nok figures presents the visual artist's re-imagination of Nok as souvenirs.*

**Keywords:** *Aesthetic, Technical, Nok Terracotta figures, Relief Modeling, Visual Tools, Mood Disorder Management.*

### Introduction

Since prehistoric times, ceramics and glass materials have had significant roles in most technologies in transportation, communication, energy, construction and manufacturing. The advancement in the field of ceramics has been from bricks to Nano technology. According to Gerhardt and Boccaccini (2010) high tech ceramics have always been associated to medical devices, used for heart valves, dental implants and restorations, bone fillers and scaffolds for tissue engineering. Hench (1991) lists out different types of ceramics used for therapeutic treatment of cancers, the repair and reconstruction of damaged parts of musculoskeletal system which include replacement of hips, knees, tendons and ligaments and repair of periodontal disease and maxillofacial surgery which have become unavoidable in the medical sector.

Current global discourse on the determinants of lifelong health, wellness, and fitness unravels startling evidence of the use of culture and the arts to solve the mental health puzzle (Corbin 2015). Schore (2002 and 2009), submits that, art making can aid the right brain in processing non-verbal communication and bodily-based affective information associated with various motivations. The Arts in Health logic model developed by Fancourt (2017) links art activities to aesthetic engagement, engaging imagination, sensory activation, evocation of emotion and cognitive stimulation. It further

enumerates social interaction, physical activity, well-being and interaction with health-care settings. Studies with clay include physical processes which increase body expression through movement, mental processes through modelling and product observation. Ceramists often combine primitive forms of design methods in human history and the echoes of the experiences of early human life in clay.

In the Ceramics Arts and Science field, Nigeria has played a leading role in promoting socio-cultural, economic development of many societies for generations through Nok Terracotta cultural history. Experts consider the Nok Culture an unparalleled archaeological phenomenon in Africa (Männel and Breunig 2016). Nok Terracotta represents Africa's oldest figurative terracotta, south of the Sahara, made by unknown producers, but their inventiveness, complexity of life and society in ancient times, clearly defines the beauty of antiquity of West African sculpture, (Posnansky 2011, Breunig and Rupp 2016). Despite the significance of Nok Terracotta which are highly priced in the international market for its antiquity. Nok remains a historic reference point with little or continuity.

The Post-Nok period presents a complete absence of Nok sculptures, and low-key pottery production with marked difference in decoration and clay choices. The ironworking and farming continued but there is nothing to connect it to the earlier Nok society cultural material. Breunig (2016) opined that the remnants of the Nok Culture would have been completely destroyed if archaeologists did not salvage the finds from the sites and document their original context.

The apparent low value for Nok Terracotta, and the non-application of ceramics in most psychiatric hospitals in Nigeria, means unexploited potentialities of ceramics, a clear indication of ignorance of several artists and the healthcare team on how to practice ceramics at mental health facilities. This study is a ceramist's attempt to extend Nok Terracotta culture by introducing new avenues to make Nok more replicable, accessible and bridge the ceramic production gaps at mental health hospitals. The new Nok Terracotta production strategy takes advantage of Nok Terracotta's prominence, international appeal and cultural potential to design Nok Terracotta images into two-dimensional, relief ware using emergent materials and equipment. In other to revitalize and capture the artful clay figures of Nok, this ceramics research sees Nok relief modeling as avenues to potentially illuminate the power of creativity in relief modelling to rekindle, inspire and empower persons with mood disorders at psychiatric hospitals.

In addition, studies assessing the contributions of ceramics sculpture to social life and healthcare are relatively new and there is paucity of studies undertaken in art and design fields seeking beneficial healthcare outcomes (Tubbs and Drake 2007, Sherwood 2007).

### **The Art of Nok Terracotta Relief Modelling**

Typically, the most common Nok Terracotta sculptures are three dimensional which are nearly life size, depicting animals and human figures (Fagg 1990). Männel (2016) found the relief depiction to be represented in abstract form, with everyday life scenarios, an example is the boat manned by two peddlers discovered from Pangwari in 2013. One of the few relief wares exhibited at the Kaduna Museum, is the *Akura relief* ware in Plate 1. Breunig and Ameje (2016) report on the various processes involved in the hand building work undertaken by Audu Washi, who is known to be a skilled worker on three-dimensional Nok terracotta productions. In ethnographic studies to investigate how Nok Terracotta may have been practiced in the prehistoric times, fragment from ancient Nok were grounded and mixed with clay sourced around Nok village for reproduction.

The first step taken before the studio inquiry on Nok relief was the physical assessment of Nok Terracotta figurines, through field visits at National Museum Jos, National Museum, Nok, and

National Museum Kaduna respectively. The visits provided the researcher an opportunity to rub minds with the curators, other researchers and staff on the exhibits, and Nok antiquity. 12 figurines were selected to explore Nok relief from figurines at Kaduna and Nok Museum, and online sources.



Plate 1: Fragment of human portrayals in relief. Excavation 2006, Akura. Height 25 cm, Source: National Museum, Kaduna. 2020.



Plate 2: Jema'a Head, three-dimensional ware, Source: National Museum, Kaduna, 2020.



Plate 3: Jema'a Head, Nok Terracotta, Source: National Museum, Nok

### **The Technical Process of Nok Relief Modeling**

The artistic technique employed for the Nok relief modelling process included relief casting, i.e. through press molding and enameling. The following procedures were adapted to replicate Nok Terracotta form, and features into Bas Relief: deploying Nok images on plaster mold, calving Nok images on Plaster of Paris (POP), press molding, firing, enameling and assemblage. Bisque firing was carried out using the Yoyang Refractory Brick Stove: this collapsible stove or mini kiln uses charcoal, wood or briquettes as its fuel. The enameling process was carried out using acrylic paints in a microwave oven. quality using locally sourced materials and equipment.

The purpose behind exploring and engaging in novel ceramic ways of enameling and firing was to provide quality and affordable ceramics, with easy but replicable methods of deploying images into two-dimensional relief, with an art practice which also enables access to parts of the psyche of inpatients which previously have gone unrecognized offering them new avenues for self-discovery and catharsis.

Considering the fact that Mood disorder severely impacts mood and its related functions, Sadock and Sadock (2013), opine that depression or bipolar disorders increase impairments, inability to function, diminish quality of life, exasperate emotional and social suffering which could lead to suicide. Uwakwe (2019) says mood disorders and suicidal thoughts often thrive with boredom, fear of failure, grief, and isolation. In fact, colossal losses, increased financial pressures, fear of uncertainty, breakdown of the family unit, substance use and isolation, may precipitate feelings of sadness, worthlessness, and restlessness which place heavy burden on the mental health of people. This study of ceramics in continuing care considers the ease of relief modeling, as an energizer that may stimulate the desire of subjects to learn through observation. The research took to account the potential of the Social Learning Theory (SLT), Social Cognitive Learning Theory (SCLT) and Art in Health outcomes to provide ceramics learning experiences. Social Learning Theory, theorized by Albert Bandura, posits that people learn from one another, via observation, imitation, and modeling.

He further opined, "The most important way of increasing self-efficacy is enactive mastery, this means gaining relevant experience with a task or job". He opined that if a job was performed

successfully in the past, it is likely that doing it in the future will be positive. Bandura (1977) in McLeod (2011) Says social learning or self-efficacy occurs when an observer's behavior changes after viewing the behavior of a model. An observer's behavior can be affected by the positive or negative display of behavior seen. The higher self-efficacy, means more confidence for one to succeed in any social learning process (Rendell, L., Boyd, R., Cownden, D., Enquist, M., Eriksson, K., Feldman, M. W., Fogarty, L., Ghirlanda, S., Lillicrap, T., & Laland, K. N. 2010).

The visual tools were meant for exhibition and used for teaching in-patients between ages eighteen (18) to sixty (60), male or female, undergoing treatment at the Department of Psychiatry, Jos University Teaching Hospital, Vom Christian Hospital, and Quintessential Healthcare Centre: Centre for Psychological Medicine, Rayfield, Jos, Nigeria. The recorded live performances and written text on relief modeling were to enhance self-efficacy, by so doing, in-patients were energized and empowered as 'modern Nok producers.

### **Deploying Nok Images into Bas-Relief Molds**

Printed Nok images were utilized for the bas-relief i.e., low relief making process, first of all, the printed images were resized on the computer, then printed and placed on the Plaster of Paris (POP) molds and the images were traced using a dull pointed awl, pen or pencil.



Plate III: Printed Nok Terracotta Images used for Tracing on POP Block, Source: <https://africa.uima.uiowa.edu/>

### **Calving Nok images on Plaster of Paris (POP)**

Once the image was properly traced, the calving process began by outlining the image first. The outline was achieved through incision on wet or dry plaster mold. However, dry plaster molds were preferred over wet plaster mold because waste plaster molds could be reused and up cycled for save cost and the process of mixing POP. The outlining on the POP was necessary so that the individual has a defined outline while carving. After the incision on plaster was done, the reduction process of etching away POP to create depth began. To achieve a replica of the traced Nok image into a relief modeled sample. Plate IV shows a sample of three Large POP Molds created using tracing, incision and carving steps, size 12" x 12".

12 Nok images were transferred unto 20 POP molds: 10 large molds of size 12" x 12" were utilized to make Nok paintings and table decorations. While 4 medium sized moulds of 6" x 5" and 6 small sized moulds of 3" x 2" were used to assemble decorative mugs, key rings, plaques, office tidy, corporate gifts and fridge magnets, and earrings, plaques. The images were calved on the plaster moulds,





Plate IV: Large POP Molds created using tracing, incision and carving steps. Size 12" x 12"  
Source: Studio work, Dokyoung 2020.

### **Pressmolding**

Press molding takes place after kneading clay properly, the clay is either flattened or rolled into a round ball and pressed down into the hollow POP mold with a mallet or any flat found object that has weight. A rib, scraper or knife is used to remove excess clay for wares that did not carry flanges, while those with flanges were trimmed using cookie cutters, to give a neat finish. Small or medium sized ware were quite fast to lift up from the mould when using leather hard clay, the relief ware was lifted up while removing the mallet; but longer periods are taken when using wet clay. The larger molds were press molded and left to harden for 10 – 15 minutes at room temperature before detaching from the molds. Plate V c - d shows the finished Nok Bas Relief adapted from Nok images. Plate V e and f shows the trimming process of a model using cookie cutters and trimmed Nok relief respectively.



Plate Va: Press molding process



Plate V b: Removing the model from the mold



Plate V c: Press molded green-ware from mold



Plate V d: Model and mold

### **Firing**

The firing of large wares was simply done by rearranging the refractory bricks on the ground in an interlocking manner to create a retention wall. The green-wares were arranged horizontally, and covered with smaller pieces. This way, air was allowed into this self-made kiln and firings were successful with few broken pieces at some instances. The Yoyang stove was designed by Esther Dokyoung in 2014 as a mini kiln, incinerator, energy saving cook stove and room heater. The stove can be used indoors or outdoors. It was quite easy to move the mini kiln from one location to another from Jos, Abuja and to Bauchi. The bricks were either arranged in an interlocking style on the ground or used in a fabricated metal case as seen on plate VI a. The result of the firings showed a red terracotta colour, and the Nok reliefs were exact replicas of the printed and traced images (see Plate III) as seen on column 2 and 3 of Plate VII, column I are the Nok images.



Plate VI a: Yoyang Refractory Brick Stove in Fabricated Metal Case





Plate VI b: Arranging refractory Brick Stove for firing



Column 1  
Nok Images

Column 2  
Fired Nok Relief

Column 3  
Fired Nok Relief (Vanished)

Plate VII: Nok figure, Bisque Fired and Nok Relief Vanished, Esther Dokyoung, 2020

### **Enameling**

The visual tools meant for teaching were enriched with colour to create attractiveness, this is in line with what psychologists say about how colour plays a pivotal role in our choices, temperament, and

mood. Jasmine (2022) says colour affects and influences our physiology leading to anxiety, blood flow and stimulation in our brains.

The bisque fired wares were washed with water, sun dried and a water-based acrylic was applied to the ware. According to acrylic painting school, Folk Art Enamel Acrylic paints, Golden Heavy Body Artist Acrylic paint, and the painted acrylic should be allowed to dry for 24 hours before firing, so that it does not peel off. The painting began with the application of light to dark colours. Then, the wares were fired at low temperature with a microwave oven. Firing with the acrylic paints on bisque ware started with preheating, when the oven was completely cool. The lowest heat range was used for 40 minutes, after which the temperature was raised to 350°F for another 40 minutes.



Plate VIII a: Assortment of Miniature Nok Relief, Source: Dokyoung 2020



Plate VIII b: Application of Eight Lutscher, Source: Dokyoung 2020

### **Emergent Materials and Equipment**

How to harness the huge clay deposits and its related resources remains huge field to be explored for functional, effective and efficient resources for mental health recovery. The process of painting ceramics with acrylic and firing with a microwave oven are emergent ways in the ceramics field in Nigeria. The result of the first enameling gave a powdery outlook after firing but subsequent test was done without adding water to the acrylic, and a light film of white glue was used to seal the acrylic

paints after firing, and thick lines of 3-D acrylic paints commonly known as 'Polymer' were added to increase intensity.

This exploratory inquiry into adaptation of Nok Terracotta images, sought ways to reduce production materials cost, production task was outlined, and the visual tools focused on very attractive Nok images, so as to appeal to the in-patients' mood based on the stance of Jack and Schyns (2015) that the face is used to transmit information for social communication. Body movements, vocalizations, clothing or scenery vocalizations, body posture, movements or shape, clothing and hairstyles can also alter meaning, for example, face information with tightly squeezed eyes, compared to one with bared teeth carry different meanings. They further claimed that the environment has been found to also play a key role in facial gestures, for example scenes in or outdoors, weather, season, time of day, buildings, occasion, culture and so much more can contribute to different social categorizations of reactions.

### **Aesthetic Presentation of Nok Models**

Nok models are press molded, bisque fired bas relief with replicas of Nok Terracotta figures made with malleable natural clay. There are three categories of Nok models: Bisque fired, bisque fired and vanished, and bisque fired and enameled. Facilitated good bas reliefs and enhanced ceramics value chain in mass production. Nok relief models clearly represented the use of texture, tactile experience and colour therapy. Tactile exposure using clay has been found to improve cognitive skills (Dokyoung 2012). The visual tools were meant for teaching so as to enhance relaxation, self-expression, self-reflection and performance-based movement which translate into increased confidence, self-esteem and replication of observed performances. The purpose of enameling with assortment of water-based acrylic colours on the Nok models was meanly to understand if colour can increase confidence and energy level during the studio experience. Colouring the Nok models will also give in-patients an opportunity to freely use colour in concert with their mood, and behavior.

The large terracotta pieces were coated with wood varnish, or glitter paint to give a glossy outlook, while the miniature enameled pieces were painted using line, dots, colour, and etching to explore pointillism, action painting, collage, and expressionism. Beyond the application of colour on Nok models, coloured plastic, glass, metal and wooden backgrounds were used as complimentary colours on the souvenirs. Psychologists suggest that geographical location, socio economic background and religion play a dominant role in colour preferences. Understanding facial gestures, earlier discussed under emergent materials and colour preference in relation to mood during the ceramics learning and production process will enable the researcher assess and analyse data from the three mental health hospitals based on this understanding.

Friedmann (2003) opined that colour alone could inspire, heal, repel or demoralize any human being, so colour played a predominant role in the production of the Nok models. Friedmann further said that the eyes blink more frequently when exposed to the colour red than colour blue.

Meanwhile, the Swiss psychologist, Max Luscher, who studied the effect of colour on behavior, developed the eight Luscher colours in 1947, recognized as a major diagnostic aid. He placed blue, green, orange /red and yellow as the psychological primaries with special significance. He found violet, brown, black and gray to be auxiliary colours. Black, gray and brown indicate having a negative tendency towards life. He opined that the first colour preference represents what one seeks to achieve or attain, while number eight represents what one seeks to avoid. Table 1 below gives a more clarified picture. The use of colour in ceramics signifies the projection of the item.

**Table1: Colour Choice on Personality**

S/No	Colour	Effect on Personality
1	Blue	Peace, loyalty i.e., likes a calm and uncluttered environment
2	Green	Tenacity, strong-willed i.e., may be an activist or striving for acknowledgement
3	Orange/Red	Activity, aggressiveness – may be bossy or an overachiever, living life to the fullest
4	Yellow	Radiance, release – i.e., embraces the new, look ahead and hopeful
5	Brown	Substantiality, warmth i.e., seeks security
6	Violet	Sexuality, high intensity i.e., stresses wish fulfillment and a desire to achieve ‘magical’ relationship
7	Gray	Subdued, non-committal i.e., does not relish personal involvement
8	Black	Authoritative, deep – i.e., repudiates things as they are, may act unwisely in a revolt against the status quo

Source: Mystery of Colour. Friedman, R.S. 2003

Luscher further asserts that if blue is the first choice, it indicates a quite personality. Blue as last choice means a state of anxiety about loyalty. Yellow as preferred colour means a strong desire to escape from existing problems and remain ever hopeful. Yellow on position 6 – 8 means hope has been dashed, disheartenment and isolation exists. The complete Luscher test contained seven three colour swatches and forty-three selections to be made. The varnished or enameled ware were either assembled or glued on glass, found plastics, paper and containers as office tidy, wall decorations, fridge magnet, and key rings. These functional items could also be designed as gifts and souvenirs. Rubin (2001) described the basic building techniques: brick, slab, coil, and pinch as a profound relationship between the creator and the object. The phenomenon of making art with clay leaves a final product to enjoy, destroy, work later, or accept as it is. Making finished Nok relief will reinforce the fact that inpatients are capable of doing useful, productive work. The large Nok figurines were used to create mixed media paintings and installations.



Plate IX: Varnished Nok Relief on Fabric Size: 54.5 x 66 cm. Dokyoung 2021





Plate X: Classical Nok, Relief ceramics with acrylic on board. Size: 37.5 x 113cm, Dokyoung 2021



Plate XI a & b: Nok Plaque for Table Décor, Dokyoung 2020



Plate XII: Office Tidy Dokyoung 2020

## **Results**

The research provided a deeper understanding of Nok Terracotta practice, the need for its revitalization through adapting Nok figurines, and adopting relief modelling with emergent materials and equipment. This research provided keys ways to unlock the aesthetic and technical contexts of the Nok relief in tandem with understanding of colour psychology. Relevant and comprehensive ceramics education to guide caregivers has been projected for hospitalized persons with Mood Disorders. This research created a structure for the continuity of Nok Terracotta cultural and historical foundations to enhance learning on ancient indigenous culture, ceramics, and enhanced ceramics methods for successful replication of Nok relief visual samples for its application at Nigerian mental health hospitals and facilities.

This research submits that ancient three-dimensional, life-sized figurines became pocket sized miniatures using contemporary ceramic design method, and emergent materials to provide broader aesthetic options for its replication at mental health facilities. The need to simplify ceramics methods stems from the lack of utilization of ceramics for continuing care in most psychiatric hospitals which deprives patients of the rich content of clay to provide tactile experience, physical activity which exercises fine, and gross motor skills.

## **Conclusion**

The rise of mood disorders and suicide-related issues in Nigeria require the inclusion of Art in Health and ceramics production in the management of patients with mood disorders. The practice of Nok relief modelling by the researcher, the Nok models and contemporary materials form the basis for the rejuvenation Nok practice and subsequent mood disorder management content. The design of visual tools and the in-patient's ability to engage in relief and clay modeling exercise can revitalize ceramic production in hospitals as well as rejuvenate Nok Terracotta production.

The findings point to several avenues for future work and prospective studies that may consider geriatric, pediatric care and other mental disorders through throwing, and slip casting. This research did not only integrate Ceramics in Continuing Care (CCC) for management of mood disorders but also improved the artistic content and knowledge of care-givers, significant other and persons with mood disorders. The recorded video performances and written text can be used as a guideline for relief and clay modeling exercise at any hospital as a positive distraction, increase self-efficacy, enhance patient's self-care, and promote Nok Terracotta culture.

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