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Promoting Therapeutic Campus Environment through Ceramic Water Fountain Fabrication

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Abstract

Rising levels of stress, fatigue, and emotional strain among students and lecturers continue to undermine productivity and general well-being within the academic environments of Nigerian higher institutions. This study focuses on the design and fabrication of a ceramic water fountain intended to enhance relaxation and visual appeal within the university environment. It examines the therapeutic potential of flowing water and draws on evidence-based design research that shows how artificial water landscaping can support psychological wellness by promoting relaxation and reducing anxiety. The project was carried out at Olabisi Onabanjo University, Ibogun Campus, where Fine and Applied Arts (FAA) students participated in hands-on fabrication and installation processes of a ceramic water fountain. Despite limitations such as inadequate infrastructure and restricted access to high-quality ceramic materials, the study demonstrates how artistic craftsmanship and vocational skills can support functional and wellness-oriented environmental interventions. The research presents the conceptual development, material sourcing, fabrication procedures, and installation of the ceramic water fountain. It also highlights the contribution of the project to campus aesthetics, environmental enhancement, and practical learning outcomes.

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INTRODUCTION

The word "fountain" originates from the Latin term "fontis," which refers both to a natural spring and to an artificial structure designed for supplying water or serving decorative and symbolic purposes (Onyema et al., 2022). It is a piece of architecture that pours water into a basin or jets it into the air, often for drinking, decorative, or dramatic effect (Okogwu & Nworah, 2021). Water fountains contribute significantly to spatial aesthetics, incorporating techniques that enhance and harmonise environmental settings (Sidorenko & Ponomareva, 2017).

Water fountains are designed for various purposes, including recreation (such as splash fountains for cooling off during summer), providing drinking water, and serving as ornamental decorations in city parks, squares, and gardens (Okonkwo et al., 2021). Historically, they have been used for climatic control, entertainment, relaxation for people, and enhancement of the landscapes of castle parks, rural areas, and towns (Peszynski et al., 2019). Water fountains have long served both functional and aesthetic purposes.

The adornment of buildings and public places with fabricated water fountains cannot be overemphasised. In Nigeria, sculptors, architects, and engineers have produced various types of water fountains over the years, constructed mainly from cement (Okonkwo et al., 2021). Ceramic water fountains remain relatively uncommon in public spaces, particularly on campuses (Okonkwo et al., 2021). However, this study recognises ceramics as a viable alternative due to their durability, hygienic quality, and aesthetic appeal. Hence, this project is premised on the fabrication of a ceramic water fountain. Although ceramic materials can be brittle, they are generally suitable for controlled environments where they are exposed to minimal physical impact.

University campuses in Nigeria present several challenges, including academic pressure, limited resources, poor infrastructure, and economic constraints. These issues affect both students and lecturers, leading to high levels of stress and emotional fatigue (Okogwu & Nworah, 2021). Water fountains can mitigate these challenges by offering calming sensory experiences and enhancing the visual quality of the environment (Onyema et al., 2022). The soothing sound and movement of flowing water naturally draw attention and can encourage psychological relaxation (Okogwu & Nworah, 2021).

Existing studies discuss the functional and psychological benefits of water fountains (Onyema et al., 2022; Okogwu & Nworah, 2021). According to Sidorenko & Ponomareva (2017), water fountains play a vital role in fostering a comfortable and environmentally friendly urban environment. Okonkwo et al. (2021) observed that water fountains also serve as public art that enhances the environment and helps alleviate people's tension through their visual appeal, demonstrating the potential of public spaces to support aesthetic, social, and restorative functions. Limited practice-based research has examined ceramic water fountains within Nigerian university contexts. Existing literature discusses general benefits or the prevalence of cement-based fountains but rarely explores why ceramic alternatives are underutilised or how they can address environmental and psychological needs in tertiary environments. These gaps hinder the understanding of how ceramics, a culturally significant medium in Nigerian art, can support environmental wellness and enhance public spaces. This study addresses these gaps by fabricating and installing a ceramic water fountain at Olabisi Onabanjo University (OOU), Ibogun Campus. It examines how ceramic-based public art can enhance campus aesthetics, provide therapeutic relief, and demonstrate the material's viability as an alternative to cement.

The project also addresses limitations on the OOU Ibogun Campus, such as inadequate infrastructure and limited access to high-quality ceramic materials (Afolabi et al., 2023). It demonstrates how artistic creativity and vocational expertise can be applied to create a functional ceramic installation that supports a therapeutic campus environment. The significance of this project lies in the ability of the water fountain to enhance the aesthetic quality of the campus environment while fostering a sense of joy, serenity, and overall well-being within the public space. Hence, this study fabricated and installed a ceramic water fountain on the Olabisi Onabanjo University, Ibogun campus, aiming to revitalise the campus environment with renewed aesthetics and emotional value.

Research Questions

This study was conducted to address these research questions:

1. How can a functional ceramic water fountain be designed and fabricated to enhance the campus environment?
2. How can locally sourced materials be utilised in developing the ceramic water fountain to promote sustainability?
3. In what ways can the project provide Fine and Applied Arts (FAA) students with hands-on experience in ceramic art and design?

Conceptual Framework

The project is grounded in the understanding that the physical environment significantly influences psychological well-being, emotional health, and social behaviour. The fabrication and installation of a ceramic water fountain at Olabisi Onabanjo University, Ibogun Campus, responds to the need for a creative and functional space that supports mental wellness and relaxation among students and lecturers. Two interrelated theoretical perspectives, namely environmental psychology and art therapy, underpin this intervention. These frameworks offer insights into how environmental features and artistic expression can be intentionally applied to improve individual and collective well-being.

Environmental psychology theory offers a foundation for understanding how people interact with and are affected by their surroundings, both built and natural (Steg et al., 2019). It examines how the environment influences human behaviour, experiences, and well-being, and how humans, in turn, shape their environment. This theory explores the dynamic relationship between individuals and the physical settings in which they live, study, and work. Significant concepts within environmental psychology include behavioural settings, personal space, crowding, privacy, and cognitive mapping (Nielsen et al., 2021). Environmental psychology recognises that poorly designed environments can contribute to stress, prompting individuals to adopt various coping mechanisms in response (Cibisaiprasad, 2023). In academic institutions, where stress, fatigue, and pressure are everyday, the quality of the physical environment can influence mood, concentration, and emotional stability.

Art therapy theory posits that art facilitates emotional expression, self-awareness, and healing (Szulc, 2021). The American Art Therapy Association defines Art therapy as an integrative mental health and human services discipline that enhances well-being through active art making, human experiences, psychological theories, creative processes, and psychotherapeutic associations (Kaimal, 2019). Emerging perspectives suggest that the physical act of creating art may help translate emotional experiences into more accessible forms for conscious therapeutic processing (Springham & Huet, 2018). In therapeutic contexts, visual and tactile engagement with art can support emotional processing and provide calming experiences.

The water fountain, being a product of artistic creativity and craftsmanship, embodies these therapeutic qualities. Its carefully designed form, textures, and materials provide aesthetic pleasure and stimulate emotional resonance. Whether viewed casually or used as a space for quiet reflection, the water fountain functions as a passive art therapy tool that encourages mindfulness, relaxation, and sensory engagement.

Together, environmental psychology and art therapy theories offer an integrative conceptual framework for understanding the significance of the ceramic water fountain as a therapeutic and aesthetic intervention. This framework positions the water fountain as a multi-functional feature that can contribute to environmental beautification, emotional restoration, and mental wellness. It serves as a practical response to the challenges of stress and emotional fatigue often encountered in academic settings, offering both functional and symbolic value. At Olabisi Onabanjo University, where academic pressures are intense, the creation of calming spaces is essential. The fabrication and installation of a ceramic water fountain responds to this need by creating a peaceful retreat within the university environment, supporting psychological recovery, inspiring creativity, and encouraging a deeper connection between individuals and their environment. Through the combined influence of environmental design and artistic therapy, the project demonstrates how campus infrastructure can play an active role in promoting mental health and overall well-being.

MATERIALS AND METHODS

Materials

The materials used in this study are ball clay, kaolin, cement, sand, bricks, and tiles. Equipment and tools used in this study include a gas kiln, welding machine, filling machine, pumping machine, head pan, hammer, chisel, measuring tape, shovel, pliers, hand trowel, jigsaw machine, and mallet. These materials and equipment are required for constructing an aesthetically pleasing ceramic water fountain.

Methods

This study adopted a practice-based methodology. According to Candy & Edmond (2018), practice-based research refers to an original inquiry conducted to generate new knowledge, achieved in part through creative practice and demonstrated in the outcomes of that practice. Practice-based research places the act of designing, including its processes and methods, at the core of inquiry, using design itself as the primary medium for exploring and understanding (Noble, 2024). A core principle of practice-based research is that practice is embedded in the research process, with research questions emerging from practice itself and answers aimed at advancing and enriching that practice (Candy & Edmond, 2018).

In this study, practice was embedded throughout the research process. The work progressed through several phases, including design conceptualisation, material sourcing, clay preparation, fabrication, and installation. Each phase contributed to answering the research questions and advancing knowledge in ceramic design and fabrication.

Design Conceptualisation

The design conceptualisation phase formed the foundation of the project. It began with sketches (Figures 1a and 1b), which outlined the intended structure, form, and dimensions of the water fountain. Okogwu and Nworah (2021) classified water fountains into spouting, floating, and cascading types. Spouting fountains project water upward through a nozzle, creating a visually striking and dynamic effect. This study adopted the spouting type because it enhances the aesthetic appeal of the ceramic form while allowing controlled water movement, which is suitable for an outdoor setting.

Figure 1a. *The sketch of the water fountain fabricated in this study (Medium: Pen on paper)*

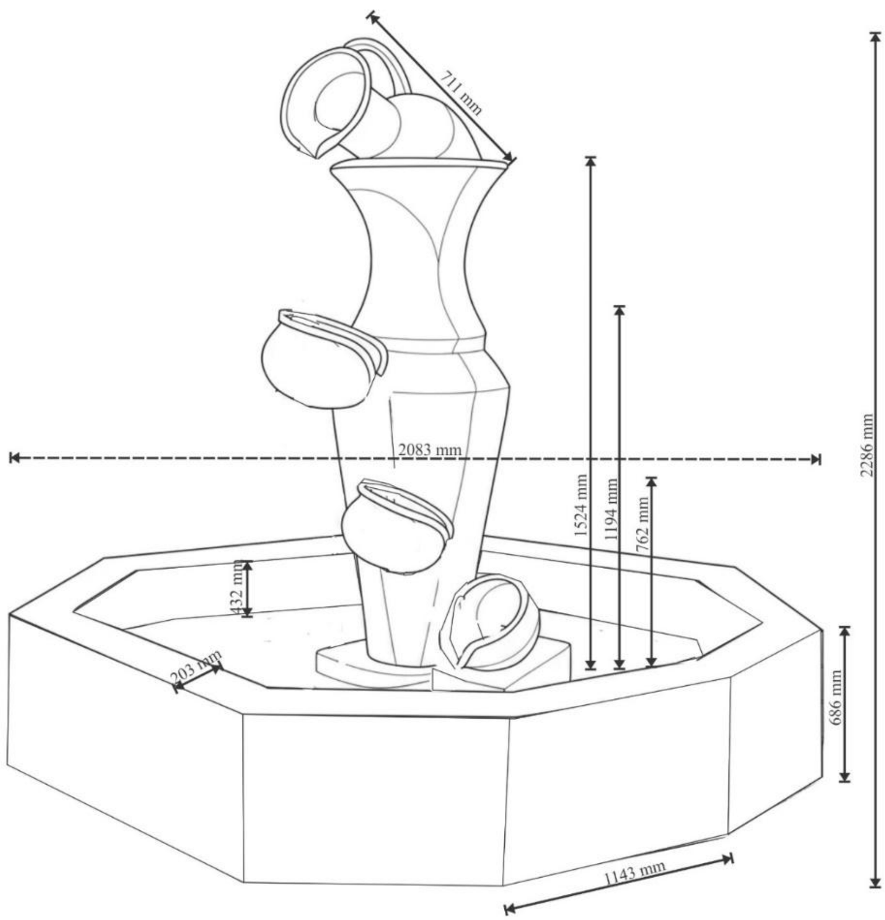

Figure 1b. *The isometric sketch of the water fountain fabricated in this study, including all the basic dimensions.*

Material Sourcing

The primary materials used in developing the ceramic water fountain were ball clay and kaolin, sourced from Oregun, Lagos State. Given the scarcity of high-quality clay in Ibogun, the primary materials were sourced from Lagos, which is proximal to the study area (OOU Ibogun Campus). This process involved logistical planning to transport the clay to the campus, highlighting the need for improved local resources. The pumping machine was purchased from an online vendor (Jumia). The cement, shovel, and sand were obtained from within the campus environment.

Clay Preparation and Testing

The sourced clays were prepared. Ball clay and kaolin were mixed together in the ratio 70:30 to allow for good plasticity, improved workability, suitability for throwing, and smooth consistency. Three test bars (60 mm x 25 mm x 15 mm) of the ball clay and kaolin mix were made, dried, and fired in a gas kiln up to 900 °C to test for their shrinkage property. The total shrinkage of the sample was calculated using the following formula:

Total Shrinkage = $L_w – L_f / L_f$ x 100%,

where L_w = wet length = 60 mm, and L_f = fired length = 54.3 mm

Total Shrinkage = 60 mm - 54.3 mm / 54.3 mm x 100% = 10.47%

The total shrinkage of the clay used was found to be 10.47%. Since earthenware bodies commonly show 10-15% total shrinkage (Miranda, 2025), 10.47% falls within that range, and this shows the clay has sufficient plasticity for forming large ceramic pieces (as used in this study) while remaining predictable. 100 kg of clay was used to produce all the pots used for the water fountain. 6.5 kg, 5 kg, and 3.5 kg, respectively, were used for the small pots of varying sizes. 60kg and 25kg were used for the big pot and the head of the big pot, respectively.

Fabrication Processes

The ceramic water fountain comprised six pieces: the big pot, the head of the big pot, the big water jar at the top of the pot, and the three small pots aligned according to their sizes. The processes involved in executing the work include designing, fabricating, and installing ceramic water fountains. The fabrication involved several stages, which are presented below.

(a) Making a Ceramics Water Fountain Prototype

The first step in the fabrication was to construct the prototype as shown in Figure 2. The prototype gives the idea and guidance on what the final project will look like. This was made with ball clay. The primary purpose of the prototype is to provide a tangible, three-dimensional representation of the intended water fountain design. It allows the artist and stakeholders to see the elements' overall form, proportions, and spatial relationships before committing to the larger, more time-consuming final construction. Creating a prototype offers an opportunity to experiment with different design ideas, explore variations in shape and size, and make adjustments before working with larger quantities of clay, since it is much easier to modify a smaller model than a full-scale piece. Constructing the prototype also helps in thinking through the technical aspects of the fountain's functionality, such as how the water will flow, where the pump will be housed, and how the different sections will connect. Although the prototype is not fully functional, it informed these vital decisions.

Figure 2. *Constructing the Prototype, Medium: Ball clay*

(b) Throwing of Pots

The ball clay was first carefully kneaded to eliminate air pockets, ensure uniform moisture content, and achieve a smooth texture essential for detailed moulding. Once the clay reached the desired uniformity, it was shaped into manageable portions and centred on the potter's wheel, as shown in Figures 3a and 3b. Centring is a crucial step that involves applying pressure while the wheel is spinning to align the clay symmetrically, thereby allowing greater control during the forming process. With the wheel rotating steadily, the clay was gradually pulled and shaped into cylindrical forms, then manipulated into specific vessel shapes using a combination of hand pressure and specialised tools. Throughout the throwing process, consistent moisture was maintained to prevent cracking and to keep the clay pliable. Each piece was carefully evaluated for symmetry, wall thickness, and structural integrity before being removed from the wheel and set aside to dry to a leather-hard stage for trimming and further refinement.

(a)

(b)

Figure 3. *(a) Throwing of the big ceramic pot (b) Throwing of the head of the big ceramic pot Medium: Ball clay and Kaolin*

(c) Designing the Pots

The design phase focused on incorporating the dove motif as a central decorative element, symbolising peace, purity, and spiritual harmony. While many religious and cultural beliefs have identified with the dove image as a symbol of peace for ages, it became globally recognised when Picasso created the first 'peace dove' in 1949 for the World Peace Congress held in Paris (Kendall, 2021). Hence, the dove motif was chosen for its cultural and symbolic resonance, often associated with messages of hope and tranquillity. The design process began with sketching the motif onto the pot's surface using a stylus to outline the shape without disrupting the integrity of the clay. Once the pots had reached the leather-hard stage (firm yet still workable), the surfaces were carefully prepared for design application. The dove motifs were strategically placed to complement the form of each vessel, with particular attention paid to balance and visual flow. The motif was adapted to follow the rounded forms of the pot, ensuring that the image maintained its clarity and impact from multiple viewing angles, as shown in Figures 4a and 4b. The integration of the dove motif transformed each vessel from a functional object into a narrative form of art, conveying both aesthetic beauty and symbolic meaning. These designs aimed to elevate the pots beyond utility, serving as visual statements rooted in cultural symbolism and personal expression.

(a) **(b)**

Figure 4. (a) Designing the big pot with dove motifs. (b) Designing the small pot with dove motifs. Medium: Ball clay

(d) Firing the pots for the ceramic water fountain in the kiln

After the pots intended for the ceramic water fountain were thoroughly dried to a bone-dry state, they were prepared for the first firing stage. This drying phase was crucial to ensure that all moisture had evaporated from the clay, as any remaining water could cause cracking or explosions during firing. Once completely dry, the pieces were carefully loaded into a gas kiln, with ample space between them to allow for even heat circulation and to prevent accidental contact that could result in damage or fusion during the firing process. The firing process was carried out using a gas kiln, which allows for controlled temperature increases and an adjustable atmosphere, either oxidation or reduction, depending on the desired outcome. A bisque firing was conducted for this batch, with the temperature gradually raised to approximately 900°C for 12 hours after a 3-hour preheating period. This slow and controlled heat increase allowed the pots to undergo a physical and chemical transformation known as sintering, where the clay particles begin to fuse, making the ceramic strong.

During firing, kiln temperature was monitored closely to ensure uniform heat distribution and to prevent thermal shock. The firing ramp included a slow heat rise during the early stages, allowing any residual chemically bound water to escape safely. Once the target temperature of 900°C was reached, the kiln was held at that temperature (a process known as soaking) to ensure complete bisque maturation. After soaking, the kiln was slowly cooled to room temperature over several hours to prevent stress fractures or warping. The assertion that firing a ceramic water fountain at 900°C raises concerns about its strength, porosity, and overall suitability for outdoor environmental conditions is valid. However, appropriately formulated earthenware bodies, especially those strengthened with kaolin, grog, or flux-bearing clays, can perform adequately outdoors in tropical regions due to the absence of freeze–thaw cycles and their reasonable resistance to moisture and biological growth. Kagonbe et al. (2021) found that some clays are suitable for the production of earthenware at 900 °C.

(e) Building of the Water Fountain Basin

As shown in Figure 5, the construction of the water fountain basin using cement and concrete blocks was essential to establishing a strong, durable, and permanent foundation for the entire fountain structure. This method was chosen for its structural integrity, water-holding capacity, and suitability for outdoor or heavy-duty installations. The process began with site preparation, which involved clearing and leveling the ground where the fountain would be installed. A compacted concrete base was laid to provide a solid foundation and ensure proper drainage beneath the basin. Once the base was set, the basin layout was marked out using string lines to guide the placement of blocks. Concrete blocks were then arranged in a hexagonal formation. The blocks were laid in courses, using a potent cement mortar mix to bond them together. Care was taken to stagger the joints between blocks for added strength, and a spirit level was used regularly to ensure the walls were plumb and even.

Figure 5. *Building the water fountain basin. Medium: Sandcrete blocks, concrete*

(f) Piping, Wiring, and Tiling of the Water Fountain

As the block walls reached the desired height, reinforcement rods (rebar) were embedded vertically and, in some cases, horizontally within the block cores to strengthen the structure further. These cavities were then filled with poured concrete to create a solid, reinforced wall. Once the walls were complete, a cement screed was applied to the interior surfaces of the basin to smooth out the joints and create a continuous waterproof lining. This screed layer was carefully finished to prevent leaks and provide a clean surface for future tiling. A waterproofing agent or membrane was added to the inner surface to improve water retention and prevent seepage. The basin floor was constructed by pouring a reinforced concrete slab integrated with the wall structure. A gentle slope was added toward a central drainage point or pump inlet to facilitate water flow and prevent stagnation. This construction method ensured a robust and long-lasting basin capable of withstanding environmental exposure and continuous water use, making it ideal for decorative and practical water feature applications.

The final stages in the construction of the water fountain basin involved the integration of piping, electrical wiring, and tiling. All these are essential components to ensure the fountain functions efficiently, safely, and attractively. Figures 6a and 6b show piping of the water fountain basin, wiring, and installation of the submersible pump. Figure 7 shows the interior part of the water fountain basin fully tiled.

Piping

The piping system was installed to facilitate continuous water circulation from the basin through the fountain features and back to the basin. PVC pipes were primarily used due to their durability, water resistance, and ease of installation. Before installation, a layout plan was created to determine the position of the pump, inlet, outlet, and any overflow or drainage points. A submersible water pump was positioned at the lowest point of the basin to draw water upward through the fountain structure. Pipes were fitted to the pump's outlet, routed through the interior or channels, and connected to spouts or nozzles through which water re-emerged. The piping system was pressure-tested to ensure no leaks or blockages before proceeding with further finishing work. Where necessary, valves and filters were incorporated into the system to regulate water flow and maintain water quality.

(a)

(b)

Figure 6. *Piping water fountain basin, Medium: PVC pipes*

Electrical Wiring

Electrical wiring was required to power the water pump and, if included, any lighting elements within or around the water fountain. All wiring was done in compliance with safety standards for outdoor or wet-area installations. Waterproof conduits were used to protect the wires and prevent electrical hazards. An external switch or control box was installed safely from the water source for easy operation and maintenance. All electrical components were connected to a Ground Fault Circuit Interrupter (GFCI) outlet to automatically cut power in case of any fault or moisture ingress, ensuring user safety.

Tiling

Once the piping and wiring systems were tested and secured, tiling work commenced to give the basin its final aesthetic and waterproof finish. Tiles were selected based on their water resistance, durability, and visual harmony with the water fountain design. The basin's interior surfaces were cleaned and leveled, then coated with tile adhesive. Tiles were laid in place, starting from the bottom center and working outward and upward along the walls. Tile spacers ensured even gaps for grouting. After the adhesive set, a waterproof grout was applied to seal the joints and create a cohesive surface. After grouting, the entire tiled surface was cleaned and sealed with a tile sealer to enhance longevity and resistance to moisture and staining.

Figure 7. *The interior part of the water fountain basin is piped and fully tiled. Medium: Sandcrete blocks. Concrete, ceramic wall and floor tiles. Size: Length (1143 mm), Breadth (203 mm), and Height (686 mm) for each side of the hexagon*

(g) The Installation of the Ceramic Pots into the Water Fountain Basin

The final stage in assembling the water fountain involved the installation of the ceramic pots into the water basin, transforming individual components into a unified and functioning sculptural water feature, as shown in Figure 8. This process required careful handling, thoughtful placement, and precise connection to the water fountain's piping system to ensure aesthetic balance and operational efficiency.

Before installation, the ceramic pots were thoroughly inspected for structural integrity and finish. Their bases were cleaned, and sharp edges were smoothed to ensure safe handling and secure placement. The basin was also cleaned and checked to confirm that all piping and wiring had been correctly installed, tested, and were ready for connection.

Each of the ceramic pots of different sizes was carefully positioned according to the water fountain's design, in a tiered layout to facilitate water flow. Each pot was strategically positioned according to its size and height, the angle of water flow, accessibility for maintenance, and the overall aesthetic of the water fountain, with the arrangement designed to create a visually pleasing composition while ensuring proper water circulation. To ensure stability, especially outdoors, the pots were anchored using water-resistant construction adhesive and placed with mortar. During this process, care was taken to preserve the integrity of the ceramic surfaces.

The submersible pump was connected to hidden PVC pipes running through the pots. In pots that were part of the water flow system, discreet holes had been made during the pottery process to allow for water input or output. The pots acted as both decorative features and conduits for the circulating water. Water was pumped to the topmost pot, from which it gently spilt over into lower pots and eventually returned to the basin, creating a continuous loop. All plumbing connections were sealed and tested to prevent leaks. Flow rates were adjusted using valves to ensure a gentle, consistent cascade that complemented the pots' forms and prevented splashing outside the basin.

Figure 8. *Installing the ceramic pots into the water fountain basin, piped and fully tiled. Medium: Terracotta, Sandcrete blocks, Concrete, Ceramic wall and floor tiles*

RESULTS AND DISCUSSIONS

Results

The fabrication of the ceramic water fountain at Olabisi Onabanjo University, Ibogun Campus, was successfully completed using a practice-based methodology. The final water fountain comprised six ceramic components (one large pot, its head, a large water jar, and three smaller pots arranged in tiers) integrated into a reinforced and tiled basin. The design incorporated dove motifs and flowing forms drawn from Yoruba cultural traditions, embodying themes of peace and tranquillity. Testing confirmed that the fountain was structurally sound and functionally reliable, beginning with a thorough visual inspection of the entire setup. Each ceramic pot was examined for cracks, loose fittings, or any signs of damage that may have occurred during installation. The tiled surfaces of the basin were also checked to ensure that the grout lines were sealed and there were no leaks or gaps. Electrical wiring and piping connections were inspected to confirm that they were properly sealed, secured, and positioned for optimal performance.

Once the initial checks were completed, the basin was filled with clean water to the appropriate level, and the submersible pump was then switched on and connected to a power source. The first few minutes of operation were observed closely to monitor how the water flowed through the pipes and emerged from the ceramic pots. This initial activation was critical to detecting leaks, pressure issues, or misaligned components. The flow from pot to pot was observed as water began to circulate. Adjustments were made to valves or flow regulators to ensure that water cascaded smoothly and evenly. The aim was to create a gentle, continuous flow that produced a calming sound without splashing excessively or causing water loss. Any uneven flow or blockages were addressed by realigning the pipes or repositioning the pots.

The pump's performance was also evaluated during this phase. It was monitored for any signs of strain, noise, or overheating. Proper water pressure and circulation were key to maintaining the water fountain's functionality, especially in systems with multiple-level flow outlets. Next, the entire system was left to run for three hours to simulate continuous use, as shown in Figure 9. During this period, the basin was inspected for leaks, and the water level was monitored to assess whether any evaporation or loss occurred too quickly. Minor adjustments were made as needed to maintain balance and ensure durability. All pot-positioning or water-pressure refinements were completed to achieve the desired sensory experience. The system was operated continuously for three hours without evidence of leakage, pump failure, or water imbalance. The testing of the ceramic water fountain marked the successful transition from construction to operation. Through careful observation and adjustment, the water fountain was confirmed to be fully functional, visually appealing, and structurally sound, ready to serve as a decorative centrepiece and a symbol of tranquility. The successful installation of the ceramic pots into the water basin brought the artistic and functional vision of the water fountain to life. The resulting visual and auditory experience was soothing, symbolically reinforcing the intended cultural and therapeutic significance.

This study highlights the therapeutic and psychological value of installing a ceramic water fountain in a university environment, with a focus on Olabisi Onabanjo University, Ibogun Campus. The successful outcome of this project highlights the potential of integrating environmental psychology and art therapy principles into campus infrastructure. The water fountain, beyond being an aesthetic feature, functioned as a restorative space that introduced calming auditory and visual stimuli into the university environment.

Drawing on environmental psychology and art therapy theories, it suggests that the presence of a well-designed, flowing water feature can serve as a functional artwork that promotes stress relief, emotional regulation, and mental wellness among students and staff. Flowing water, as theorised in environmental psychology, provides stress-reducing effects that can improve mood, focus, and mental well-being among students and staff.

Figure 9. *Testing the ceramic water fountain, Medium: Terracota, Sandcrete Blocks, Concrete, Ceramic Wall and Floor Tiles, Iron Oxide Coating, Dimension: Height (2286 mm), Width (2083 mm). Location of all the pictures: FAA Ceramic Studio, OOU Ibogun Campus, Ogun State, Nigeria*

Discussions

The cultural motifs (dove) embedded in the ceramic pots extended the water fountain's role beyond functionality, positioning it as a symbolic landmark that fosters cultural identity and place attachment. Based on empirical research, Mehrjou and Salaripour (2025) indicated that cultural identity significantly enhances the perception of authenticity and place attachment, which in turn shapes destination loyalty and tourist satisfaction, leading to behavioural intentions. Cobbina et al. (2025) explored how integrating elements of cultural identity into functional spaces can create environments that foster sustainable urban development. From an art therapy perspective, the ceramic water fountain serves as a passive therapeutic tool. The tactile and visual qualities of the ceramic forms, combined with the rhythmic sound of flowing water, created opportunities for mindfulness and reflection. This aligns with studies suggesting that artistic expression, even in public art, can foster emotional healing and psychological balance. In an empirical study of the relationship between public art aesthetics and psychological healing, Hu (2023) found that public art healing allows people to experience pleasure and calm in daily life, fostering psychological comfort, purifying the mind and social environment, and helping to prevent or reduce mental illness. According to Zang et al. (2021), waterscapes, such as those provided by the artificial water fountain fabricated in this study, enhance psychological and mental health by diverting negative emotions through mitigation, like cooling effects, instigation, like physical activity and nature connectedness, and restoration, like reduced anxiety and attentional fatigue. Xie et al. (2021) revealed that artificial water features, such as man-made water fountains, provide varying levels of health-related benefits, offering significant psychological gains such as stress restoration and behavioural benefits, including physical activity and social interaction. Xiang et al. (2023), through an evidence-based design application of water landscaping for rehabilitation gardens, found that well-designed water features could effectively improve psychological states by reducing anxiety and stress, which explains why most rehabilitation gardens incorporate various forms of artificial water features, such as fountains and waterfalls.

This study's outcome suggests that integrating artistic environmental interventions into educational spaces can support a healthier, more calming atmosphere, enhance aesthetic appeal, and contribute to the overall well-being and productivity of campus communities. The combination of traditional ceramic techniques with modern construction methods (such as reinforced concrete basins, waterproofing, and electrical safety installations) ensured durability and usability. This underscores the viability of blending indigenous craftsmanship with contemporary engineering for sustainable design interventions. The study demonstrates how functional art installations can respond to psychosocial needs in academic environments, affirming the theoretical expectation that well-designed physical spaces contribute significantly to mental wellness, cultural expression, and community cohesion.

Regarding sustainability, relying on locally available clays sourced from Oregun, which is in close proximity to the study area, reduces dependence on imported or industrially processed materials, lowers production costs, and minimizes the environmental footprint associated with long-distance transportation. According to Lourenco et al. (2025), by ensuring proximity to raw material deposits and manufacturing sites, the reduced distance involved lowers transportation costs and decreases CO_2 emissions. Local sourcing also provides students with practical exposure to material experimentation and responsible production methods, demonstrating how sustainable ceramic design can be achieved within limited-resource educational settings.

Based on an empirical study, Kasumu & Abe (2025) found that students better understand and retain theoretical knowledge through hands-on, real-world experiences and recommend that university curricula incorporate more experiential opportunities, including fieldwork, internships, and practical projects. In this sense, the ceramic water fountain project offered Fine and Applied Arts students valuable practice-based learning opportunities that strengthen their technical, creative, and professional competencies. Students participated in clay sourcing and testing processes, enabling them to understand ceramic material preparation, shrinkage, plasticity, and firing, which are core competencies in ceramic studio practice. From initial sketches to final installation, students engaged in ideation, prototyping, design and fabrication, plumbing considerations, and installation. This improves their ability to integrate aesthetic, functional, and conceptual considerations in ceramic practice.

Through direct involvement in the project's stages, students gained learning experience in ways including practical engagement in application of design thinking, collaboration and project management skills, public art installation and outdoor display, integrating artistic creativity with vocational and technical skills. The project bridges the gap between academic theory and vocational expertise, enabling students to see how studio ceramics can contribute to environmental enhancement, public engagement, and campus development. The project provided a holistic learning experience where students' involvement is central to both the creative and technical success of the ceramic water fountain's installation.

Practical Implications

The outcomes of this study have significant practical implications for campus planning, student well-being, and the integration of art into educational environments. By demonstrating the calming and restorative effects of a ceramic water fountain, the study provides a model for how functional art installations such as ceramic water fountains can be used as sustainable interventions to promote mental health and emotional wellness in academic settings. The installation of the ceramic water fountain offers students and lecturers a readily accessible space for relaxation, reflection, and stress relief, especially during periods of academic pressure such as examinations or long working hours. It enhances the aesthetic value of the campus, turning underutilised outdoor or indoor areas into meaningful and emotionally engaging environments. Furthermore, it encourages greater appreciation for cultural and handcrafted design, serving as an educational resource for students in art, design, and environmental disciplines.

For university administrators and policymakers, the project highlights the need to consider environmental and emotional factors when developing campus infrastructure. It supports the argument that mental health initiatives need not always be clinical or counselling-based but can also be embedded in the physical design of learning spaces. The approach can be replicated across other campuses, community centres, and public institutions as a cost-effective approach to improving quality of life, non-invasive mental health, and wellness through environmental and artistic interventions. Significantly, the study contributes to local creative industry development by promoting the use of ceramic art as a functional and therapeutic design solution, thereby opening up entrepreneurial and collaborative opportunities between artists, designers, and educational institutions.

CONCLUSION

The fabrication and installation of the ceramic water fountain at Olabisi Onabanjo University, Ibogun Campus, demonstrates the practical viability of ceramics as an alternative material for creating aesthetically compelling and environmentally responsive public art installations. By involving students in every stage of the project, the initiative provided valuable hands-on experience and a practice-based learning process that integrated artistic creativity, technical competence, and vocational skill development. Blending artistic insights and craftsmanship with engineering, this project ensured the ceramic water fountain was effectively executed, resulting in a dynamic, harmonious, and enduring centrepiece.

This study establishes a foundation for future applied art projects aimed at environmental enhancement, public-space design, and experiential learning within Nigerian universities. Subsequent initiatives should build on this model by exploring additional ceramic installations and expanding creative infrastructure to support a more holistic, engaging, and wellness-oriented campus environment. Future projects should focus on expanding infrastructure in other creative ways to support the campus environment's beautification and promote educational endeavours. While the study offers strong theoretical and functional justification for the ceramic water fountain's design and aesthetic value, its psychological and therapeutic claims remain speculative as it lacks empirical validation. Nevertheless, future research should employ empirical methods that provide measurable insights into user experience, regarding physiological measurements, behavioural data, or controlled comparative assessments to demonstrate the actual psychological impact of the ceramic water fountain project on users.

Recommendations

Based on the findings of this study, it is recommended that university authorities integrate functional art installations, such as ceramic water fountains, into campus planning and development as a strategic approach to promoting mental well-being. Such installations offer a dual benefit of environmental beautification and emotional restoration, especially in academic settings where stress and fatigue are common among students and lecturers. To enhance the impact of such interventions, designated relaxation or "restorative" zones should be created in strategic locations across the campus, such as near libraries, administrative buildings, lecture halls, and open spaces. These zones should incorporate elements of nature, such as flowing water, greenery, and seating areas, to offer students and staff an accessible escape from academic pressures.

Collaboration between artists, designers, and engineers is strongly encouraged. These collaborations can facilitate the design and fabrication of culturally relevant, locally inspired ceramic installations that not only serve therapeutic purposes but also provide practical learning opportunities for students in creative disciplines. In this way, the project can serve both educational and entrepreneurial functions, supporting creative industry development within the university ecosystem. It is also important to establish mechanisms for monitoring and evaluating the impact of such installations. Universities should implement frameworks that combine user feedback with measurable indicators such as stress reduction, mood improvement, or academic performance. This will help determine the long-term effectiveness and inform future decisions on wellness infrastructure.

Given the positive outcome of this project, similar ceramic water fountains can be installed across other faculties or campuses of the university. Each installation can be tailored to suit the specific spatial and cultural context of the location, allowing for broader institutional reach and community engagement. There is a need for policy-level support that recognises the role of environmental and aesthetic design in mental wellness. University leadership and higher education regulatory bodies should consider integrating wellness-focused design strategies into institutional policies and campus development plans. By doing so, mental health support can be made more inclusive, non-clinical, and integrated into everyday campus life.

CRediT Authorship Contribution Statement

Peter Oluwagbenga Odewole: Conceptualisation, Methodology, Writing – Original Draft, Writing – Review & Editing, Supervision. **Festus Osarumwense Uzzi:** Resources, Validation, Formal Analysis, Investigation. **Toheebat Oluwapelumi Lawal:** Project Administration, Data Curation.

Declaration of Competing Interest

The authors declare no conflict of interest.

Ethical approval

Not applicable.

Data Availability

The data used in this study are available upon request.

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