

## The Place of Ceramics in the Sustainable Provision of Facilities in Nigerian Universities in the Twenty-First Century

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**Article DOI:**

10.48028/iiprds/ijsrhlir.v6.i1.07

**Keywords:**

Sustainable,  
Provision, Facilities,  
Conducive,  
Challenge

**Abstract**

The university as an educational institution for higher learning is to provide a conducive environment for both undergraduate and graduate studies in various disciplines. It is a very important fact that for effective teaching and learning to take place, there must be adequate facilities. This has not been the case in Nigerian universities. Over the years, there has been the problem of poor provision of facilities in universities that needs to be addressed in order to attain quality education that will position the nation for the challenges of the twenty-first century. Though several factors are responsible for this, such as lack of funds and general poor funding of the education sector by the government, this paper therefore proposes the contributions of ceramics in particular and visual art in general in the sustainable provision of facilities in the twenty-first century Nigerian universities.

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### **Background to the Study**

Education, informal or formal was developed as a result of man's struggle for survival and enlightenment in his society. While informal education refers to the general social process by which human beings acquire the knowledge and skills required to function properly in their culture, formal education refers to the process by which teachers instruct students in courses of study within institutions. In other words, it is a system of formal teaching and learning as conducted through schools and other institutions and the bed rock for the development of any nation. Whether it is the preschools, colleges or the universities, no nation can attain an all-round development without education through quality teaching and learning in a conducive environment. The conducive environment therefore is made possible through the provision of adequate facilities. To this end, it is therefore the responsibilities of the government and other stakeholders to provide the necessary infrastructure and facilities for conducive teaching and learning environment. It is this quality education that will proffer solutions to the nations' contemporary challenges.

Nigeria as a developing nation has not done enough in the provision of adequate facilities in the schools, colleges and the universities and this has contributed in no small measure to the fallen standard of education. In order to save the universities from total collapse, the university teachers union, known as Academic Staff Union of Universities (ASUU) and the Non Academic Staff Union of Universities (NASUU) have always been calling on the Federal Government to properly fund education generally, though with particular attention to the colleges and the universities. This call has always resulted in trade dispute between the government and the unions and the resultant strike actions by the unions, with adverse effect on the standard of education. The government in an attempt to effectively manage the affairs of the universities, had established the National Universities Commission (NUC) in the year, 1962 as an advisory agency to the cabinet office which became a statutory body in 1974. A special university education trust fund known as the Tertiary Education Trust Fund (tetfund) Scheme, was established by the Federal Government of Nigeria in 2011 to disburse, manage and monitor education tax to government owned tertiary institutions in the country. The Needs Assessment Project Scheme was also put in place to assess the specific needs of the respective institutions in order to revitalize, the public colleges and universities. The Federal Government in several occasions had proposed full autonomy to the university, to generate and properly manage its funds as a way of revitalizing the universities. On the other hand, this has never gone down well with ASUU, which argues that, considering the level of economic recession in the nation, it would lead to increase in school charges that will force the majority of the students to drop out of the colleges and the universities.

It is the position of this paper therefore, that while the government still funds education, the colleges and universities should look inwards and outwards to generate the much-needed funds to sustain themselves. The universities can source funding through philanthropists, foundations, corporations, investments, endowments, trust, grants, and collaborations with the business sector while faculties and departments are encouraged

to collaborate towards the generation of funds and the provision of teaching and learning facilities in their institutions.

### **Aim and Objectives**

The aim of this paper is to bring to the fore the possible contributions of ceramics or pottery towards sustainable provision of adequate facilities in Nigerian universities in the twenty-first century.

The objectives will be; to explore the possibility of producing (teaching and learning) facilities from clay, to see how possible it is to formulate workable ceramic bodies from available (locally sourced) materials, to explore the possibility of manipulating the formulated clay body into required forms, to see if the achieved composite bodies and forms can be fired to the expected vitrification range with the available kiln and if the produced wares will make suitable facilities for conducive teaching and learning environment.

### **Literature Review**

#### **Theoretical Framework**

This paper is anchored on the Utilitarianism Theory of Art, propounded by Jeremy Bentham and John Stuart Mill in 1861. According to Tam-George (2021), the theory states that "something is moral and good only when it produces the greatest amount of good for the greatest number of people. The theory of utilitarianism is a theory of normative ethics that asks whether a specific action is good or bad, moral or immoral. The theory supports this paper in the use of clay in the provision of (teaching and learning) facilities in Nigerian universities in the twenty-first century. Since there is inadequate facilities in our universities and other institutions of higher learning, the ceramic unit is in a very good position to contribute its quota to the provision of adequate facilities for the greatest number of citizens, the youths who are students in our colleges and universities.

This work is also anchored on Modern Creativity Theory as presented by Kanematsu and Barry, (2016), which states that creativity is the ability to improve on already existing ideas into new ones and to bring in fresh ideas into previously organized systems and situations. Creativity therefore, involves human activities centered on the nature of their environment that challenges the true origin, genuine and imaginative use of skills. This was what gave birth to pottery which from its origin has been producing concepts in material deposits for instrumental uses to solve human problems in every area of life. Wertheimer, (1922), the proponent of the Gestalt's Principle and who especially was concerned with problem solving, opined that it is the characteristics of stimuli that cause us to structure or interpret a visual field or problem in a certain way. He went further to say that, the essence of successful problem-solving behaviour is being able to see the overall structure of the problem.

This paper therefore, having realized the structure of the problem in the nation's institutions of higher learning, intends to redesign, recreate and reproduce to generate

funds for the institutions and to create conducive environment for teaching and learning in public tertiary institutions. The modern creativity theory also supports this paper because, it makes clear the importance of revisiting an old or existing concept, system or situation in a more creative approach to address trending or contemporary issues. This paper is concerned about problem solving through innovation which according to De-Jong and Wennekers, (2008), is the creation and implementation of useful ideas for new products, services, production methods and management practices. This is supported by Knight, (1977), who defined innovation as "the pursuit of creative or novel solutions to challenges confronting the firms including the development or improvement of goods and services as well as a new administrative methods and technologies for carrying out organizational functions. It is believed that through innovation, the ceramics unit in particular and the visual arts departments in Nigerian universities will provide goods and services to the universities and their environs and this will bring about the much-desired revitalization of the public colleges and universities. This paper therefore has identified the overall structure of the problem of inadequate facilities in our institutions of higher learning and thus proffers an affordable and sustainable solution.

### **The Visual Art and its Functions**

The word, art, a perfect way of doing things has been defined by several people as it appeals to them. It is a creative process through which a person showcases his emotional experience to the society in material deposits. Omuaru (2002), defined art as the creation or expression of ideas in a unified entity, thoughts or concepts into practical or tangible entity, an outward expression of inward feeling or search, a visual representation of human thoughts or feelings that satisfies ones craving, and the result of the manipulative skills applied by man, usually a gifted person to express an idea in a chosen medium. Ochigbo, (2000), asserted that " art is a vehicle through which creativity finds expression..., it can be seen, touched, felt, read, interpreted, and appreciated" He went further to say that "art is an expression of an urge which creates order that deters the tendency towards disorder". This follows that everybody moves about with wonderful ideas, thoughts, feelings and concepts, content or message, but it takes a gifted or creative person to give form and firmness to the concepts, making it a tangible entity, accessible to all in performing the utilitarian and aesthetic functions of art. The function of visual art therefore is to give form to content and making content accessible to others as a means to solving problems. It is worthy of note that, while the utilitarian wares are for instrumental uses though still beautiful and convenient because they are produced by creative people, aesthetics, according to Wilson (2000), is not beauty in itself or beautiful things in themselves; but a kind of experience and sensations that beautiful things evoke in their perceivers. Aesthetics, therefore deals with sublimity, grandeur, magnificence, splendor, brilliance, spectacle, loveliness, charm, appeal, glamour, perfection, shapeliness, refinement and gorgeousness among other things considered by a creative person in making the environment conducive.

The focus of this paper is on the place of ceramics as a potential contributor to Nigeria's education growth, economic growth and job creation as keys to nation building. It is to

say that the university in particular and the government in general should provide the enabling environment for the departments to be part of the provision of affordable facilities and internally generated revenue sources of the institution.

### **Positioning the Ceramics Unit for the Task of Providing Funds and Adequate Facilities**

Ceramics design is one of the five visual art courses in many universities in the country. Other courses include Painting, Sculpture, Graphic design and Textile design. Since the primary function of the university is to train and graduate students at both undergraduate and graduate levels, it is therefore imperative that the university must create the enabling environment for the ceramics unit to produce wares in commercial quantity. In order to avoid unnecessary interruptions of academic activities, the establishment of a ceramics cottage industry is proposed by this paper. With the abundance of the factors of production such as land, labour, capital and entrepreneur in the area of pottery, the university's investment unit must collaborate with the lecturers who are professionals and the department to work out the modalities for establishment of the cottage industry.

Before establishing the cottage industry, the special committee that would be put in place will first of all consider production and its types such as direct and indirect productions. Other important things to consider are the factors that will determine the volume of production. These will include the amount of capital, availability of raw materials, management, the market size, efficiency of other factors of production, level of technology and the quality and functions of the proposed wares.

### **Requirements for Cottage Industry Start off**

A ceramics cottage industry does not require so much for start off. The basic thing in addition to clay and other minerals substances which are in abundance in the country include a space, house, working benches, shelves, wheelers, manual and electric potters wheels, standard liquid, gas and electric static or tunnel kilns, pug mill, plunger, clay extruder, filter press, vacuum pump, jigger and jolly machine, et cetera. In my almost three decades of teaching ceramic design and drawing in the university, I've supervised students who have successfully designed and fabricated both manual and electric potters' wheels, table wheelers, clay slab rolling machine, clay extruder, and liquid fuel and gas kilns, to mention but a few. A good number of these equipment can be produced or bought from within the country while some can be imported. Onu, (2006), who designed and fabricated a crank kick wheel, observed that the aim of fabricating locally, is to stop dependency on foreign made wheels and equipment which cost a fortune to import and has deterred a lot of potters from practicing. Ojie and Esosuakpo (2012), said that the unavailability of equipment in Nigeria required for ceramic production and effective studio practice due to cost, propelled potters to fabricate, using locally sourced materials. It is worthy of mention that this equipment come in different sizes. While the very large ones are meant for the large industries, the medium and small sized ones are for the cottage industries and pottery centers and studios respectively.

### **The Advantages of the Cottage Industry**

This cottage industry will be in a position to;

- a) Provide the much-needed facilities, including visual aids,
- b) Generate revenue for the institution which in turn can be used in acquiring and maintaining other facilities,
- c) Provide enough processed clay for the ceramics students to easily express themselves and design new forms,
- d) Make pottery wares available within the University and its environs
- e) Help in the development of pottery practice,
- f) Create employment, especially for indigenes of the host community,
- g) Increase the wealth of the people,
- h) Improve the living standard of the people
- i) Help the people to acquire skills,
- j) Train ceramics students and those from other departments and institutions on the Student Industrial Work Experience Scheme (SIWES) and
- k) Harness the abundant natural resources and other factors of production to produce firm wares that will instrumentally and aesthetically solve human problems.

### **Potteries that will generate revenue for the university and be utilized in the provision of facilities**

The cottage industry, being well managed will produce a lot of interesting and functional wares that will be sold to members of the university community and its environs. Umoh (2022), opined that clay as an endothermic material is a poor conductor of electricity and therefore very necessary in the building industry. This is supported by Ganiyu (2012), who listed the advantages of clay in building to include poor conductor of electricity, fire proof, durable, non-toxic, sufficient and excellent thermal masses and performance, low sound transmission level through the walls, general feeling of solidity, stability, strength and security, low maintenance and elegant appearance. These qualities make potteries about the best material for the building industry. Ganiyu (2012), went further to assert that in this era of climate changes such as global warming and its resultant effects on the earth, clay with some of its properties that are environmentally compatible stands out as one of the tested and proven materials in the building industry. Faulkner and Ziegfeld (1969), said that in building, no material should be assigned a task for which is unsuitable, therefore each material should be employed with sympathetic understanding of its nature.

This makes potteries highly sought for in the building industry. The wares that can be produced for sale and also be used by the university include wall and interlocking bricks, roofing, floor and wall tiles, pillar pots, balusters, carpentry accessories, fashion accessories, sanitary wares, dinner wares such as plates, tea set and water set, sewage and conduit pipes, flower vases and planters, picture frames, figurines, bathing tubs, water closet, and so on. Monumental potteries and commissioned projects such as wall decorations (mosaic and collage), gift items for hotels, institutions and corporations,

wedding, chieftaincy coronation, birthday and marriage anniversaries, water fountains, funeral wares, electrical insulators, busts of prominent personalities and other indoor and outdoor ceramics sculptures can be produced for the university, the government and wealthy members of the community who are willing to pay for such products and services. In the area of waste management, ceramic bricks are needed for the construction of incinerators for both the university and the host community while the ash will be used to enrich the soil for farming by Faculty of Agricultural Sciences and in the composition of low temperature glaze for pottery character.

#### **Potteries that will serve as visual aids**

Due to the malleability of clay which allows modeling into various forms and fired to very high temperatures to become dense, rocklike, vitreous and impervious to liquid, many forms can be produced as visual aids for teaching and learning processes. The wares here include anatomical models such as cross sections of the eye, nose, tooth, mouth, heart, lung, liver, reproductive organs in man and other creatures, and so on. A well formulated porcelain body is used in the production of porcelain teeth and bones for transplant in the area of bio-ceramics or ceramics in medicine. The porcelain body, due to its resistance to scratches and corrosion as a result of high firing temperature, is used in the production of mortar with which substances are ground and mixed with pestle in the laboratories.

#### **Conclusion**

Ceramics or pottery, from its discovery has been in the business of producing wares to meet the utilitarian and aesthetic functions of art in every area of life. Haven identified one of the major problems of colleges and universities in Nigeria to be inadequate facilities, ceramics, if well positioned, can do a lot to assist in the provision of affordable facilities to create a more conducive environment for teaching and learning. This is done by revisiting existing structures to create new and superior wares for the benefit of the youths in the colleges and universities. In order not to interfere with the academic activities of the students, a cottage industry, established by the colleges and universities in collaboration with the Visual Arts Departments, and with workers drawn mainly from the host communities, will produce quality wares to attract funds, to be utilized in the construction of other facilities and as visual aids while the students are adequately trained on the Students Industrial Work Experience Scheme (SIWES).

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