International Journal of Innovative Environmental Studies Research 14(2):172-179, April-June, 2026

© SEAHI PUBLICATIONS, 2026 www.seahipublications.org ISSN: 2354-2918

DOI:10.5281/zenodo.20594771

Improving The Design Of Faculty Of Architecture Using Environmentally Friendly Ideas: Case Of Selected Departments Of Architecture In Nigeria

Obinwa, Ugochukwu Kingsley[1] & Nwoke, Innocent O.[2]

[1,2] Department of Architecture,
Chukwuemeka Odumegwu Ojukwu University, Anambra State, Nigeria

E-mail: [1]fabianukobinwa@gmail.com, [2]ionwoke@coou.edu.ng

ABSTRACT
The Faculty of Architecture is conceived as an enabling environment for learning, experimentation, and professional formation. This project re-imagines the relationship between public and private space through a critical interrogation of spatial hierarchy. By challenging conventional assumptions about spatial functionality and proposing open-courtyard strategies for ventilation and noise moderation, the design seeks to create an environment that supports intellectual productivity. Proper circulation systems and coherent spatial adjacencies are integrated to foster effective learning conditions and to strengthen the overall spatial experience.
Keywords: Proper circulation, pen-courtyard strategies, effective learning conditions.

INTRODUCTION

In Nigerian universities, a Faculty is typically established with a minimum of three Departments. At the 2012 Architects' Colloquium, the Faculty project was ratified, and Departments of Architecture were encouraged to develop at least two academic programmes that could mature into independent disciplines and, subsequently, full Departments.

Despite this vision, the implementation of a Faculty project is confronted with numerous challenges, including inadequate physical infrastructure, limited equipment, insufficient laboratories and workshops, and constraints in Information and Communication Technology (ICT)—not only in terms of availability, but also regarding the appropriate mix and operational efficiency required for sustainable development.

The Faculty of Architecture remains committed to the study of natural and artificial systems, with particular emphasis on cities, buildings, and industrial products. The Faculty and its curricula are organized around two foundational disciplines: design and planning. Issues spanning the creation of industrial products, architecture, landscapes, and settlement systems are addressed through lectures, fieldwork, and studio-based learning. Within these pedagogical frameworks, the intention is to integrate knowledge, methodology, theory, and professional competencies through project-driven instruction.

In this regard, establishing a Faculty of Architecture at Chukwuemeka Odumegwu Ojukwu University, Anambra State is essential for strengthening architectural education within Anambra State and, by extension, contributing to improvements in architectural training across Nigeria.

RESEARCH METHODOLOGY

Research Design

This study is anchored on the principles governing how information is collected, the sources from which it is drawn, and the manner in which it is processed and analysed for the development of the design project. Establishing a clearly defined research method is indispensable, as it enhances the reliability of the design-derived conclusions and supports their acceptability to the broader public.

Data Type

The need assessment is best understood through descriptive research classifications, primarily qualitative and quantitative approaches. Both primary and secondary data may be captured within either qualitative or quantitative frameworks. The distinction lies in the nature of information required, the research questions addressed, and the analytical procedures employed to interpret the collected data.

Sources

Three principal categories of sources were utilised:

Primary sources: These enabled the author to obtain first-hand experience of conditions on the ground through interviews, measured drawings, direct observations, and photographic documentation.

Secondary sources: Books, journals, and online materials were used to complement information generated through primary research. Although secondary sources were not sufficient on their own for certain data requirements, they provided valuable support through case studies, published research findings, and existing literature on secondary education and its associated building types.

The data collection strategies included case-study review, as well as interviews, photography, and sketching to extract and refine the information required for the design.

Data Collection Method

Relevant literature on zoning and planning considerations for the library component of the design was reviewed and synthesized.

The synthesized findings were further analyzed to identify the aspects most capable of informing spatial inter-relationships and guiding the development of an environmentally responsive architectural scheme.

- Data from literature regarding zoning and planning of Library Design was collected. This data was synthesized to select the aspect which would give inter-relationships of various activities in a Library Design.
- Case studies were analyzed in the light of behavioral aspects by means of observation and users survey.

Inferences were drawn from the case studies. Suck inferences were used to 'chal-out' requirements to enable me conceive a better design. Various techniques were explored from literature for producing the desired psychological effects in space.

CASE STUDY ONE

Faculty of Architecture Unicross (Crutech) University of Technology, Calabar, Cross River

Plate 3.1: Approach view Faculty of Architecture UNICROSS
Source: Field study (2023)

Client: Cross River State Government
Location: ldim lta, Calabar 540281, Cross River State Nigeria
Capacity: Studio capacity of 45 students

Plate 3.2:Image showing Studio Area
Source: Field study (2023)

THE SCOPE AND FUNCTION

Functional spaces present at the faculty during the time of survey includes the following;

1. Administrative Offices: includes the dean's office and other staff of the department
2. Drawing studios (studios allocated to Architecture students) measuring 9.0m by 10m with a capacity of 45 students
3. Architecture jury hall
4. Information communication technology (ICT) lab

Merits

- The faculty building is clearly defined and separated from studio area
- The introduction of a living courtyard makes it possible for proper ventilation and lighting

Demerits

- Insufficient studio spaces to accommodate other sub departments in the faculty
- The faculty is under-developed, hence needs careful planning
- No provision for individual convenience for each office
- Lack of specialist Laboratories and workshops

CASE STUDY TWO

Department Of Architecture Chukwuemeka Odumegwu Ojukwu University (COOU) Uli, Ihiala LGA, Anambra State.

Plate 3.7: Image Showing Approach view
Source: Field study (2023)
Client: Anambra State Government
Location: Uli, Ihiala LGA, Anambra Nigeria Capacity: Studio capacity of 35 students

Background Information

The Department of Architecture was one of the pioneer departments at the inception of the University. Anambra State University, as it was then called, was later renamed Chukwuemeka Odumegwu Ojukwu University. The undergraduate (BSc) programme commenced in 2000/2001 session

Plate 3.9: Image showing the Studio Area
Source: Field study (2023)

Plate 3.10: Image showing the Administrative offices
Source: Field study (2023)

Plate 3.11: Image showing Hod's office and Technologist office
Source: Field study (2023)

Plate 3.12: Image showing courtyard
Source: Field study (2023)

The Scope and Function

Functional spaces present at the faculty during the time of survey includes the following;

1. Administrative Offices: includes the HOD's office and other staff of the department
2. Drawing studios (studios allocated to Architecture students) measuring 7.5m by 10.2m with a capacity of 35 students
3. Information communication technology (ICT) lab
4. Data room
5. Material shop

Figure 3.2 Department of Architecture COOU - ULI Campus Floor Plan
Source: Author (2023)

Merits

- The department comprises of both undergraduate and postgraduates programme
- The introduction of a living courtyard makes it possible for proper ventilation and lighting

Demerits

- Inadequate studio space for 100 level and P.hD students
- The Department is under-developed, hence needs careful planning
- No provision for individual convenience for each office
- Lack of specialist Laboratories and workshops
- No modeling studio

CONCLUSION

To conclusively achieve the specific objectives of this project: the broad-based guiding principles have to be anchored on a well thought out the design. This philosophy is one that has to touch on the fundamentals of the Faculty of Architecture with characteristics of its location and much considerations on the relationships between spaces.

A faculty as a unit, is a research and productive environment. It thus combines the function of Studying and innovations, to boost the knowledge and productivity of the users.

Design Goal

The Goal of the Faculty of Architecture COOU - Uli shall be "to create a building and environment that will encourage the study of Architecture.

Also to establish a research institute that will attract visitors from all works of life and from all part of the world.

Space Requirements And Allocations

The project will be designed to cater for 1,200 students, 80 Academics staff and 40 non-Academic staff and also provision will be made for visitors

Item	Studios/ Workshops	Sizes	Proposal
1	Studios; each with 40 computer/sketching tables	2.5sqm per student	125sqm
2	Classrooms	0.5sqm per student	25sqm
3	Laboratories/ Workshop	0.9sqm per student	45sqm
4	Administrative offices	12sqm	12sqm
5	Technical staff offices	9sqm	12sqm
6	Resource/Data Room	20sqm	20sqm
7	Jury and Exhibition Space	-	-
8	Staff offices	12sqm	12sqm
9	General office	16sqm	16sqm
10	Administrative: HOD	12sqm	12sqm

REFERENCES

Ballast. D. K, (2007). 2ed, Handbook of Construction Tolerances. John Wiley and Sons. ISBN-0471931519.Pages 189-196.

Carbary. L, (2009). Thermal and Energy Modelling in Two Fenestration Systems in Hot and Cold Climates. Industry Scientist, DOW Corning Corporation. Source: http://www.glasswebsite.com/-webinar/Ther-mal%20Presentation%20-Carbary.pdf.

Ernst and Peter Neufert Architects' Data, Third Edition, Edited by Bousmaha Baiche, DipArch, MPhil, PhD, School of Architecture, Oxford Brookes University and Nicholas Walliman, DipArch, PhD, RIBA, School of Architecture, Oxford Brookes University.

Core Curriculum and Minimum Academic Standards (CCMAS) for Nigerian Universities

Retrieved from: http://www.Brickschoolofarchitecture.com. Case Study of Brick School Of Architecture. (Accessed on 9th December, 2023).

Retrieved from: http://www.Schoolofplanningandarchitecture.com. Case Study of School of Planning and Architecture. (Accessed on 9th December, 2023).

Retrieved from: http://www.www.cept.edu.ng. Case Study of Center for Environmental Planning and Technoloy. (Accessed on 9th December)