

Integrated Architectural Design Module as a means of evolving people centered mass housing in Nigeria

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Abstract— Three basic approaches have been identified in the teaching of architecture designs in Nigeria namely: theory and project approach method, studio module method, and the integrated module. This paper takes a critical look at the gains of the integrated module whose aim is to bring about an architectural education that evolves from and is expressive of its environmental identity and how it can positively influence the practice of architecture in Nigeria. The theoretical analytical method in which various articles, books, conference proceedings, and other internet publications relating to the appraisal of the various modules of architectural design education with a view of highlighting their various prospects and shortfalls were investigated. The paper further calls for a curriculum review in order to make necessary changes to emphasize the research-orientated integrated design module to forge a creative design approach that will entail the evolution of design tasks within the context of user needs instead of imposing designs on the end-users.

Keywords: architecture, education, integrated, mass housing, module, people-centered, practice.

1 INTRODUCTION

IT has been reiterated by many scholars [1],[2],[3],[4] that the quality of any architectural practice is inextricably linked to the method and vitality of the architectural training that produced the practitioners. A successful architectural practice has a strong research base built from the socio-cultural imperatives, prevailing environmental factors, and the core values of society as submitted by Opere-Djan[5]. Mendres and Cabal[6] further posited that an excellent architectural practice must be at a congruence with society; its culture and its natural setting. Ukanwa[7], in his submission said that acceptable architectural design education is contextual as well as functional in its approach and must be preceded by good research.

It then presupposes that one key factor that should propel any architecture school should be to produce graduates with the ability to conduct in-depth analysis and building synthesis through environmentally supported research which will ultimately strengthen the quality of their design work and the expressiveness of their creative production such that they can contribute positively to the practice of architecture in the real world of work after school. It is without gainsaying the fact that the ability of the practicing architect is stemmed from his/her educational exposure acquired over some time. Because of this, the curriculum upon which he/she is meant to pass through is germane to his responses to the various professional challenges he/she is prone to in the real world of work. Arayela[8], in his submission, said that for there to be meaningful impact in architectural practice by graduates from architecture schools, education in the right quality and quantity which ultimately depends on the quality of the curriculum and mode of instruction must be in place in the schools that are producing them. Architectural practice simultaneously

demands several abilities. It requires the architect to have appropriate skills and techniques as well as the ability to manage self, team, and project systematically.

In order to provide direction for the profession measured by the evolution of user-friendly architectural design projects, there is the need to teach future architects the principal activities of analysis, design, and implementation of physical changes within the context of a given environment [6] which is the basis for integrated architectural design. According to English Oxford Living Dictionaries [9], the terms integration and integrated come from the verb to integrate; defined as combine (one thing) with another to form a whole. In the context of architectural design, the term integrated building or integrated design addresses the inherent complexity of the buildings. Buildings are composed of different and often conflicting parts and aspects (design intentions, different technologies, and agents, legal and budgetary restrictions. In building design, integration is defined as bringing all of the building components together in a sympathetic way and emphasizing the synergy of the parts without compromising the integrity of the pieces [10]

UIA Accord on Recommended International Standards of Professionalism in Architectural Practice [11] submitted that a functional integrative approach is indeed a necessary condition to produce a user-friendly architecture that is domiciled in the host community and carries everyone along. Therefore, an integrated design approach should be an inherent part of the compulsory knowledge and abilities of architects and should be encapsulated in the education that produces them.

Various programs by the Federal Government of Nigeria

aimed at eradicating the dearth of adequate and functional housing for the urban dwellers across the nation has been bedeviled by repeated failures to meet the need of the targeted population who find what is provided for them inadequate and is a consequence of the fact that more often than not, an understanding of the functional housing needs of these consumers (who are often kept in anonymity) which can be achieved through the integrated design module, does not precede the development of the schemes [12],[13],[14],[15]. This results in improper articulation of housing development; culminating in inadequate housing that leads to dissatisfaction of the housing residents.

2 ARCHITECTURAL EDUCATION IN NIGERIA

Architectural education in Nigeria is hinged on seven specializations namely architectural design, historical and theoretical studies, building systems technology, humanities and social studies, environmental control systems, and physical sciences. An architect's ability to design is often attributed to, the body of knowledge available to him/her most of which is obtained in his/her training in architectural design which is considered to be the most important course in the curriculum [7].

2.1 Core Objectives of architectural education in Nigeria

In the words of Sagada [16], the core objectives of architectural education in Nigeria include the following:

1. To carry out high-quality professional education aimed at producing architects capable of understanding and solving complex technical problems as well as coordinate, other related professional inputs in the development of the environment.
2. To infuse in the students an understanding of the context of the design and construction in physical, cultural, social, economic, and technological terms.
3. To equip the students with adequate knowledge, creativity, specialized skills, and leadership capabilities that will enable the graduate to coordinate and control the design and construction processes and inputs by allied professionals.
4. To train a graduate architect to be a consultant capable of performing the following functions in relation to the environment: brief development and feasibility studies, project initiation and development, site analysis, development planning, design supervision, contract administration, project management, rehabilitation, and refurbishing, modification and material change in use, restoration and preservation and maintenance.

These objectives are meant to be achieved through the process of training and retraining of the future architecture workforce of the nation who need to do more than just design, but should be able to solve the myriad of environmental problems the society is faced with and resolve post design problems in

all its ramifications as well as compete with his/her contemporaries globally. There is hence the need to reappraise the curriculum and teaching methodology of architectural education in Nigeria in order to achieve the set objectives.

2.2 Basic approaches to teaching architectural design in Nigeria

Three basic approaches to teaching architectural design in Nigeria have been identified by Nkwogu [17]. These are theory and project module method, studio design module method and the integrated studio method.

2.2.1 Theory and project module method

In this approach, architectural design tasks are categorized in hierarchical order based on the degree of complexity starting from the least complex to the most difficult ones (fig.1). Students are drilled progressively in design tasks with a prepared brief of requirements for a particular design task. The students go on to collect data from relevant sources and finally proceed to analysis, synthesis, and design evolution in the design studios. These works are finally vetted and graded in a jury session comprising of not just the studio mentor but also other members of faculty after which another design task is then issued by the studio mentor from another class of buildings.

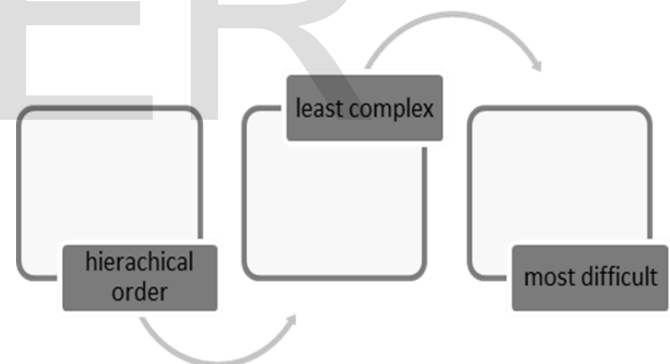


Fig 1: Theory and project module method
[Author's research, 2018]

2.2.2 Studio design module method

The Studio design module method has been described as one in which architecture tasks are generated within the architectural studio and grouped into modules according to building classes such as housing, institutional, and complex buildings. Other modules include urban design, traditional architecture, industrial buildings, agricultural buildings, and rural development. The students are meant to spend two non-contiguous semesters in each module [Fig 2]. This method makes room for

specialization on the part of the architectural educator for the more time he/she spends time in a given module with students, the more command he/she has of that given module.

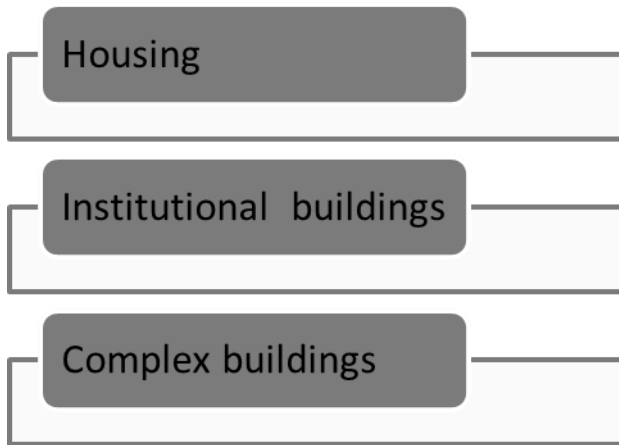


Fig 2: Modules of the Studio design method (author’s research 2018).

2.2.3 Integrated studio method

This approach in teaching architecture in a procedural with potentials for developing a research-based architectural practice culture that is sustainable [18]. It is broken down into various pedagogical stages namely: community study, reconnaissance (study of base map and survey of the selected area of the chosen community) documentation and graphical presentation, analysis, synthesis, and identification of needed architectural projects within the area of study and finally the design of the public facility/non-domestic project and housing project which are products of the established needs that arose from the analysis and synthesis [fig.3].

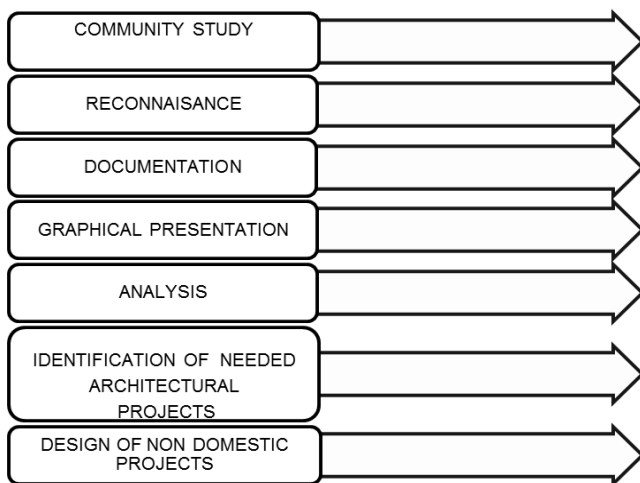


Fig 3: Modules of Integrated Studio method (author’s research 2018).

Many researchers [19],[20],[21] have asserted that the built environment is a reflection of the lifestyle/culture of a people. Burns and Grebler[22] in their submission reiterated that the creation of housing in the built environment is both a process and a product; a process because it involves a totality of actions that must stem from the locality of its existence as a base for human habitation. Many housing programs in Nigeria have been deemed to fail because of their disconnect with the community for which it was meant. This further reinforces the need to have an architectural design education that evolves from the community-taking cognizance of the need of the housing end users.

This form of education in which the learning process encourages analytical and synthetic processes, stimulating investigative thinking and effective learning experiences which enable architecture students to take active control over the cognitive processes of problem solving and theoretical knowledge that is practiced and produced in the context of architectural design projects will ultimately affect the practice life of architecture graduates as it enables the validation of their qualitative and quantitative research base in design and propose original interpretations. It encourages problem-based learning with design as the core of the teaching process.

3.0 Advantages of the integrated architectural module

3.1 Research orientation

Olotuah [23], suggested that for design to be functional, it has to be contextual and preceded by good research. The integrated architectural design module has been found to offer research potentials that are lacking in other architectural design modules. It’s been found to equip architectural educators to face the research challenges that are required for the progress in their career path. It provides the opportunity for a productive academic career offering deep-rooted training in the rudiments of research.

3.2 Means of Job creation

This module equips an architect with the ability to conceive none existing design projects though the development of proposals to prospective clients on which basis he can get himself employed by them.

3.3 Encourages interdisciplinary practice

The integrated architectural design module revolves around community development, environmental protection, preservation, design review, and restoration. This encourages flexibility in the patterns of work, focusing on information gathering, processing, and analysis which interdisciplinary approach expands the frontiers of architectural practice.

3.4 Encourages computer application

The integrated architectural design module depends largely on the documentation, analysis, and synthesis of data, which makes information gathering and sharing with the computer handy. It makes referencing and other data applications easier and sustainable [7].

3.5 Broadens the scope of architectural practice

This very detailed pedagogical approach opens up avenues for harnessing the skills of the architect in isolating the attendant challenges in any built development program, which will ultimately enable him to resolve order, and re-order the solutions that will be more acceptable to the user. It puts the architect in the place of a solution provider who determines how the solution is provided.

3.6 A linkage between architectural education and practice

By combining community-based learning with the studio work in the integrated architectural module, a better synergy is achieved between practical training and more formal academic studies. Students write a graphical report of their documentation experience by which they are obliged to reflect analytically on their work in the architectural practice, which helps them to evaluate the achievement of their practical training. The documentation report that the students submit at the end of the community studies has been seen to raise the quality of students' design work and serves as a means of job creation for architecture graduates in the real world of work.

4.0 Challenges of the integrated architectural design module

4.1 Cost Implication

The integrated architectural design module is expensive as most of the studies are done very far away from the educational institutions. It is often done at the expense of the lecturers and students as enough funds are not voted for this programme in most architecture schools.

4.2 Interference with the academic calendar

The field trips for the community study more often than not clashes with the academic calendar particularly due to unforeseen circumstances like strikes or students' unrest.

4.3 Hostility of host communities

Some cultural norms of certain communities which may place restrictions on particular gender of students can limit the scope of the study.

5.0 Conclusion

This paper is of the view that the integrated architectural design module is the most appropriate instructional mode in the teaching of architectural design as it creates a synergy between the architectural design studio and the community/beneficiary participation in the evolution of design projects resulting in greater success of design works than any other module.

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