education is the attainment of a humane and responsive environment, its re-positioningto enhance housing provision in Nigeria is imperative. The objective of thisstudy is to assess the architectural curriculum in Nigerian Universities and evaluate the need for incorporating the'housing scheme' into the existing curriculum towards solvinghousing related problems and quality in Nigeria. The methodology adopted for the study includes interview with academician and analysis of data collected during the field investigation. These were complemented with review of existing curriculums in schools of architecture in Nigerian universities.

2. Education Practice and Goal of Architectural Education

There are several mythsin education practice, and generally speaking, role models for architectural education had not been good teachers or good schools, but, work or the opinions of famous architects or statements of opinion that had often been count as theories. The epistemological and cognitivenon-correspondence between a 'well-designed real building' in one contextandlearning how to design well in another, let alone in the studio, is seldom addressed. Therefore, it is not easy to research an education programmewhose object is not definable, testable or even properly representable.

Studio is the most important component (or, the 'core') of the architectural curriculum, yet, architectural education cannot be reduced to design only, there is the need for experience, by which, without knowledge (and critical one at that) there cannot be good design. The type of language used and criticism practiced in studios aim to train students in the skills of design practice. This objective, however, is not always the best pedagogic vehicle for understanding the complexity of architecture. Thus, there is a built-in conflict in the heavily studio-based curriculum which happens to include important lecture courses too. 'Real-life Projects' are a potentially useful new vehicle of teaching and learning. But, unless the whole curriculum with its theory, history, technology, and components are transformed, introducing *'the real world'* into the studio, real projects might, paradoxically, detach the studio even further from lecture subjects, hence, the source of necessary knowledge. Although, 'real world' has often been referred to in the studio courses, but, what is meant by this, is a very narrowly defined client-based architectural practice.

Architectural practice is an *idealised* version of what is supposed to be taking place in (good) architectural offices with creative architects and well-healed clients. It ignores the commercial, cut-throat, world in which the architectural practice operates as there is conflicting relations between society, interest groups, resources, agents, institutions and the different types and intensity of power residing in them. All these tend to contradict the lofty ideals and visions stated in school prospectuses. Theories or philosophies borrowed from other disciplines might be entering the education courses, but they seldom help organise the pedagogic and epistemological of the curriculum not least because the curriculum is governed by professionaland notintellectual objectives.

The Charter granted to Royal Institute of British Architects (RIBA) in 1837, set out the objective of the institution as the advancement of architecture and the promotion of the acquirement of the knowledge of the various arts and sciences concerned therewith.The quality of the human habitat is central to architecture, and thus the goal ofarchitectural education should be to contribute to the attainment of a humane and responsiveenvironment. In this endeavour, schools of architecture strive to equip students with theeducation required to make them contribute to the promotion of an orderly developmentof the human environment. The programme of study leads to the production ofprofessionals who are sensitive to human needs and aspirations and who have therequisite knowledge and the intellectual and aesthetic skills to evolve expressive designsolutions of problems of the built environment. They have the professional skills requiredfor effective shaping, re-ordering and articulation of the built environment.The goal of architectural education is subsumed in the general concept of education,which is to prepare people to improve and perpetuate their society. This is achieved bytaking due cognizance of the society's political, social and economic circumstances in thedesign of the educational programme.

The architectural programme in Nigeria was designed, at the onset, to meet the challenges ofmodern architecture. The programme has faced challenges in the last fifty years for it tobe relevant to Nigeria's national needs and aspirations, as well as meet currenttechnological developments (Olotuah, 2000). Thus,education must be consciously enlisted to serve the national needs, as it isan instrument of power on which the national survival depends (Adeyinka,1981).

2.1 Potentials and pitfalls in the architectural education

In attempting to study architectural education, especially the research aspect, there are potentials as well as pitfalls. Through research on education, it is possible to learn about much more than the education itself. For example, one may realize through such a research programme that:

- There are no *'architectural'* problems that are 'purely architectural' and nothing else. Studying and teaching such a complex and interrelated object could be a broad life experience rather than a pragmatic career choice;
- Global issues to do with cities, communities, environment, economy, culture and civilisation are *both* too great and too complex to be solved by traditional architectural interventions, *and, at the same time,* too much intertwined with the design, production and use of even the simplest building.
- The effects of the internationalisation of the construction industry and architectural practice are much less benign than the much criticised effects of so-called International Style. Yet, despite its grand gestures, exemplary buildings, glossy magazines and borrowed philosophical concepts, architectural practice and architectural education are desperately inadequate even in securing realistically safe, satisfactory and decent buildings for all in sufficient numbers.
- The world is not an architectural design problem, nor can it be without design. Education must have room to deal with this interesting paradox (Through research)

- In an educational research programme, it is necessary to study not only what *is* taught, but also what is *not* taught, and why?
- Social and spatial justice, not just in one city or country, but across the world, is directly related, if not reducible, to design, planning and building activities.
- Architectural education must not take the relationship between the architectural practice and society for granted, and must develop means of looking at them from the point of view of education.
- There is a lot of work on the *Beginning* of architectural education. There is the need for more research on (a) the *End*, and (b) the *Ends*, of education
- In the university context, shouldn't architectural education give something back to other disciplines after constantly taking or borrowing from them? For as long as architectural education limits itself to the training of architects (with some added intellectual courses), without making serious attempts to develop and increase critical knowledge, it can neither satisfy the serious *professional* requirements of the society, nor can it have much contribution to the project of a more democratic world and better environments for all.

The persistent observation on behalf of practitioners that architecture schools, as a whole, are too disconnected from the realities of the profession has been the bearing point for decade's worth of complaints. Furthermore, these same practitioners are of the common belief that educators are deaf to the evolving needs of the increasingly complex profession. According to Stephen Gegner from the AIA, architects have always talked about the lack of preparation for practice that architecture schools provide. The schools do not listen (Mitgang,1999). The criticism that members of the architectural profession have directed towards the academy varies from the general to the specific. From a generalized perspective, practitioners want a steady stream of talented new graduates who can hit the boards running (Catanese, 1989). While this is a shared view for the majority of the profession, some criticism is more precise. In their 1995 report, the National Academy of Sciences concluded that most architectural graduates lack knowledge of the practical and technical aspects of construction, such as designing to a budget. For the academy to respond to these criticisms in a meaningfully active way would require a significant and fundamental change from their current curricular mission.

University-based schools of architecture are focused on providing the future architect with an education: hence, it is the role of the academy to create critical thinkers equipped with the sensibilities and skills to become architectural-minded problem solvers. The empirical knowledge acquired within this environment is the direct result of inquiry, experimentation, and discovery. To shift this view would require the redirection of the academy's curricular mission to one that is more vocational in nature.Thus, in order for architectural programs to meet their set objectives, architects should engage in research through which they will make original contributions to the development of an improved theoretical basis for architecture. The curriculum in architecture, though studio-based, should inculcate considerable research input into its postgraduate programme in order to prepare thegraduate students for a productive academic career.

3. The Inception of the University-Based Architectural Education

Prior to the late 1800s, when states began to establish standards for professional licensing, any individual who so desired could establish an architectural practice and self-appoint himself as an architect (Berkeley, 2000). During this time, most self-proclaimed architects could only receive architectural training from ateliers, or established practices. While the atelier provided an environment for the newly-initiated to learn as they worked, the level of their professional development was largely determined by the size of firm, its level of organization, and length of personal stay. It was commonplace for employees who developed their skills within one atelier to leave and then open their own practice with their own atelier.As the first attempt to incorporate architectural education into the university setting, Thomas Jefferson, with the establishment of the University of Virginia in 1814, intended for a formal architectural curriculum to be offered as part of the university's School of Mathematics (Hegener and Clarke, 1976). However, for a variety of logistical reasons, Jefferson's concept for an architectural curriculum did not come to fruition on the campus until more than a century later.

Thus, Massachusetts Institute of Technology (MIT) was founded in 1860 in Cambridge, Massachusetts. Within the 5 years that followed, MIT established the first university-based architecture school in the English-speaking world(Hegener and Clarke, 1976). University programs were also soon established at the University of Illinois, Urbana and Cornell University in 1867 and 1871, respectively. Within these newly established programs, a model was sought for improving the practice of architecture through better education. However, education has been the least popular research topic in Schools of Architecture, and the PhD or Master's theses on architectural education has been minimal. Also, the teachers and students of architecture prefer to see more images of a famous architect's work to a lecture on professional or educational matters. Hence, the big rethink to which this research is a tiny contribution. Education for architects must be radically reconsidered, through a new, more fully human paradigm that engages with society and culture.

3.1 Architectural Education in Nigerian Universities

The establishment of the Nigeria College of Arts, Science and Technology in 1952 led to the birthof architectural education in Nigeria. The college was located at Ibadan, the capital of the thenWestern Region of Nigeria. It was relocated to Zaria in Northern Nigeria in 1955, and the first set ofDiploma students graduated in 1961.In 1962 the college was upgraded to a full-fledged University, named Ahmadu Bello University,Zaria. The course programme was restructured and graduates were awarded the Bachelor ofArchitecture degree, which had the same link as the earlier Diploma with RIBA. The link withRIBA was maintained till 1968, when the course programme was again restructured,

into twotier,with the offer of the Bachelor of Science (BSc) and Master of Science (MSc) degrees inarchitecture. The new programme took off in 1969 (Arayela, 2000).The new department became the second school of architecture in Nigeria.

By1970, a thirdschool of architecture was established in the University of Lagos. By theyear 2010, the number of architecture degree-awarding institutions in Nigeria hadrisen to twenty two government (twelve Federal and ten State such as Kano and Ogun) Universities. Some private (five) institutions(such as Covenant and BELLS University) have also established degree-awarding schools ofarchitecture(Table 1). Therehave since been more Polytechnics (26)and Colleges of Technology awarding National Diploma (ND) and/or the Higher National Diploma(HND) (Arayela, 2000; Olotuah and Adesiji, 2005)).

Table 1: Nigeria Schools of Architecture

Serial Number	Name of University	Year Established	Ownership
1	Ahmadu Bello University, Zaria	1962	Federal Government
2.	University of Nigeria, Enugu Campus	1963	Federal Government
3.	University of Lagos	1970	Federal Government
4.	ObafemiAwolowo University (Formerly University of Ife, Ile-Ife)	1977	Federal Government
5.	University of Jos	1979	Federal Government
6.	Rivers State University of Science and Technology	1980	State Government
7.	Ambrose Alli University, Ekpoma	1981	State Government
8.	Abia State University, Uturu	1982	State Government
9.	Enugu State University of Science and Technology, Enugu	1985	State Government
10	Federal University of Technology, Minna	1985	Federal Government
11	Federal University of Technology, Akure	1989	Federal Government
12	Federal University of Technology, Yola	1990	Federal Government
13	NnamdiAzikweUniversity,Awka	1991	Federal Government
14	AbubakarTafawaBalewa University, Bauchi	1992	Federal Government
15	Imo State University, Owerri	1992	State Government
16	LadokeAkintola University of Technology, Ogbomosho	1993	State Government
17	University of Uyo	1995	Federal Government
18	Kano State University, Kano	2002	State Government
19	Covenant University Ota	2002	Private
20	Cross River State University of Science and Technology (CRUTECH)	2002	State Government
21	OlabisiOnabanjo University, Ago Iwoye, Ogun State	2003	State Government
22	BELLS University, Otta, Ogun State	2004	Private
23	Anambra State University (ANUST)	2006	State Government
24	Caleb University, Ikorodu, Lagos State	2007	Private
25	Joseph Ayo Babalola University (JABU), Arakeji, Osunstste	2009	Private
26	OluwatomisinOlamideAdeshiyan University, Lekki, Lagos	2011	Private
27	University of Ilorin, Kwara State	2012	Federal Government

Source: Author's Field Survey (2014)

3.3. The Architecture Curriculum in Nigerian Universities and Housing

The architecture curriculum in Nigerian schools of architecture is largely fashioned after the British and American models of architectural education. The original programmeshave however undergone tremendous changes to reflect the national needs and aspirations and also to meet the current technological development.

In response to the societal relevance of a course programme, curriculum evaluation is carried out from time to time. It is done to ascertain the degree to which the objectives of the programme have been achieved. It furthers enables the determination of the appropriateness of the curriculum for the educational development of a nation. This is particularly important, as the curriculum has to be brought into relation with local conditions with emphasis on the special character of the natural and social environment. An evaluation of the curriculum of architectural education in Nigeria is necessary to ensure that it is still relevant to its set objectives of meeting the nation's needs. In this regard, schools of architecture in Nigerian universities are guided in their curriculum design by the minimum standards stipulated by the National Universities Commission (NUC).

However, the scantiness of facilities and architect-educators/researchers to implement the research oriented curriculum in Nigeria schools of architecture has been identified as the greatest difficulty faced by architectural education in Nigeria (Adeyemi, 1996).The objectives of the educational programmes in Nigeria, as stipulated in the third National Development Plan shouldprovide a general framework within which architectural education in Nigeria should be focused. These include:Reforming the content of general education to make it more responsive tothe socio-economic needs of the country and Consolidating and developing the nation's system of higher education inresponse to the economy's manpower need (FGN, 1975).

The curriculum in architecture schools in Nigeria recognises the place of housing in the development of the built environment. Housing is an essential need of man and the role of the architect in its delivery is crucial. However, the depth of study and the importance attached to it vary from one school to another. The curriculum therefore requires a critical examination to ascertain how well it is meeting this need in order to be relevant to Nigeria's socio-economic

circumstances.Housing is a reflection of the cultural, social and economic values of a society. It is in particular a cultural phenomenon, which finds expression in a people's ability to meet their needs of shelter in the context of their communities. The role of culture in housing is predominant despite the moderating effectof economics, climate, and technology known to them. Housing, a subset of traditionalarchitecture, evolves from the culture of a community in accordance with the lifestyle of its people, the materials of construction available, and technical possibilities open to them (Gardi, 1973).The schools of architecture have over a hundred course titles to choose from in formulating their programme. Their philosophy, and the mission and vision of the university inform the emphasis on the course outline. The emphasis on housing courses varies from one school to another. However, in many schools of architecture in Nigeria, courses on housing studies are not included in the programmes. In a few schools of architecture, housing studies are taught as a part of human settlement studies, and are treated marginally.

At LadokeAkintola University of Technology (LAUTECH), a total of 265 credit units are taken for the Bachelor (191 units) and Master (74 units) of technology degrees in architecture.Sociology of Housing (Arc 515) of 2 units is taken at 500 levels while Housing seminar (Arc 721) of 2 units is taken at master's level. Sociology of housing as an elective in the ninth (9^{th}) semester, at the undergraduate level talks about the concept, goals and objectives of housing; housing bundle and basic attributes of housing; housing need and man needs for shelter; housing demand and supply. It further emphasises on the layouts and different ways of formulating housing standards for developing countries; socio-economic segregation in housing; methods of financing housing; and core and self-help housing. On the other hand, Housing seminar (Arc 721) also an ***elective*** of 2 units at the postgraduate level highlights presentation of seminar papers on current issues in housing in Nigeria; Government housing policies and programmes; development of academic and professional skills in preparation and development of seminar paper on housing.

At the Federal University of Technology, Akure (FUTA), out of a total of 256 credit units taken for the Bachelor and Master degrees (B. Tech, M. Tech), only two credit units are taken on Housing in a course entitled: Housing Seminar. It is a theory course (Humanities and Social Studies Module) taught in the second semester of the final year of the Bachelor degree (semester 10). The course examines the phenomenon of squatter settlements in developing nations, urban population growth and the demand for shelter. It also examines the incidence of rapid urbanisation and the poverty of the rural communities in developing nations. As part of the course, discussions are held to explain the solutions to housing problems in developing nations through the adoption of modern and alternative technology systems in housing construction.

Although,Housing is a major component of architectural design studio in most schools of architecture, beginning with elementary study of basic units of the house and culminating in extensive mass housing projects.Housing studies are also inculcated into the curriculum in architectural design, and humanities and social studies modules, there is need for more research and modules involving housing scheme into the architectural curriculum in Nigeria universities towards solving the housing problem and quality. At both Universities (LAUTECH and FUTA),design starts from first semester, second year through to the final year, which is the 10^{th} semester of the fifth year. At LAUTECH, design of residential buildings is done as part of the design studio in the secondyear (200L). The students are to design a simple building of student's home in the village with detailing of residential components such as bathroom, kitchen, bedroom etc. At the Federal University of Technology, Akure, design of residential buildings is done as part of the design studio in the second year (200L), third year (300L) and fifth year (500L). In 200L the course is ARC 201B-Architectural Design II, which is taken in the second semester of the second year (semester 4). The course includes 'small scale projects such as simple residential designs, restaurants, and children playgrounds, etc'. Submission requirements include three-dimensional projections, space analysis and functional diagrams.

Thus, Housing has been identified as a major component of architectural design studio in most schools of architecture, beginning with elementary study of basic units of the house and culminating in extensive mass housing projects, there is still need for the big rethink.Education for architects must be radically reconsidered, through a new, more fully human paradigm that engages with society and culture. The reform of curriculum for schools of architecture in Nigeria to face the new challenges of Housing Construction shouldbe improved towards solving the housing problems and quality. The quality of housing researcher in graduate schools and formulation of housing scheme as a core into the curriculum should also be looked into.

4. Conclusion and Recommendations

Through review of the architectural education and curriculum, coupled with interview and field survey in Nigeria schools of architecture, it was realised that studio is the most important component (or, the 'core') of the architectural curriculum.Research in the field has been minimal. Thus, research on architectural education should engage not only in the traditional issues of how to teach design, how to instil creativity, or how to link with the community, but also to introduce challenging questions and projects.**T**he reform of curriculum for schools of architecture in Nigeria to face the new challenges of Housing Construction in Developing Countries should be implemented based on:

- Improving the quality of researchers on housing in the graduate schools;
- Formulating housing schemes as a core into every stages/levels of the curriculum;
- Maintaining holistic education at the undergraduate level;
- Formulating specialized subprograms that include 'housing' especially at the Master's level;
- Seminars and research courses on 'Housing' should form a substantial part of the Master'sprogramme
- Forming an internationally comparable framework of a 7-year program by combining the undergraduate holistic

education and specialized subprograms in graduate schools;
- Implementing accreditation requirements and
- Giving an appropriate certification of progress/completion of programs by educational institutions

References

[1] Adeyemi, E.A. (1996): "The Appropriate Direction of Architectural Education in Africa Region" AARCHES J, the Journal of Association of Architectural Educators in Nigeria, Vol. 1, No. 3, pp. 38-41.
[2] Adeyinka, A.A. (1981): "The Role of the Teacher in Society" Education and the Nigerian Society,Obanya, P.A.I. (Ed.), Ibadan University Press, pp. 118-133
[3] Agbola, S. B. (1998) *The housing of Nigerians - A review of policy development and implementation.* Research Report No. 14. Ibadan, Nigeria: Development Policy Centre.
[4] Arayela, O. (2000): "Clinical Management of Architects' Education in Nigeria – The Way Forward in the Twenty-First Century" AARCHES J. Vol. 1, No. 5, pp 78-84.
[5] Arayela, O. (2002): "Research methodology within the context of Architectural Research Perspective- An Overview" AARCHES J.Vol. 1, No. 2, pp 10-16.
[6] Catanese, A. J. (1989) "Architectural Education: Bridging the teaching / practice gap," *Architectural Record* 7:
[7] Federal Government of Nigeria, FGN (1975): Third National Development Plan, 1975-1980, Vol. 1, The Central Planning Office, Federal Ministry of Economic Development, Lagos
[8] Gardi, R. (1973) *Indigenous African architecture*. New York: Van Nosnand Reinhold Company
[9] Hegener, K.C and Clarke, D.(1976) *Architecture Schools in North America.* Princeton: Peterson's Guides.
[10] Mitgang, L.D (1999). "Back to School: Architects Sound Off on 10 Critical Issues Facing Architectural Education,"*Architectural Record* 9 (1999): 112.
[11] *Olotuah, A.O. (2000): "Architect-Educators and The Curriculum in Architecture: Roles and Expectations in the 21st Century" AARCHES J, Vol. 1 No. 5, pp. 29-32*
[12] Olotuah,A.O. and Adesiji O.S (2005). An appraisal of architectural educator in Nigeria: Online Proceedings of the Built Environment Education Conference, Centre for Education in the Built Environment, CEBE, London, UK, 5-6 September.
[13] *Olotuah ,A.O and Ajenifujah , A.O (2009) Architectural Education and Housing Provision in Nigeria* CEBE Transactions, Vol. 6, Issue 1, April 2009 pp 86-102 (17) ISSN: 1745-0322 (Online)
[14] Turner, J. F. C. (1976) *Housing by people- towards autonomy in building environments*.London: Marion Boyars Publishers Ltd.
[15] United Nations (1976) *Housing policy guidelines for developing countries*. Nairobi: STIESA/50
[16] Vielle, J.P (1974): The impact of research on educational change". International Development Research Centre (IDRC), IDRC-MR 50e, Ottawa, Canada.