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EDITORIAL

Following on from the AARCHES conference held in February 2006 this issue of AARCHES Journal presents ten articles on the curriculum of architectural education in Nigeria. and career opportunities for architect-graduates. The articles address the theme of the conference, which the Editorial Board has adopted for year 2006 issues of AARCHES Journal.

The periodic evaluation of the curriculum of a course programme is essential for its continued relevance to the socio-economic and technological development of a nation. In particular the curriculum of architectural education has to be continually brought to relation with Nigeria's local conditions, the special character of the natural and social environment, and the demands of the twenty-first century.

The papers in this issue examine a broad range of topics, from the integration of information and communications technology into the course curriculum, to the role of architectural education in sustainable urban development. Salisu's paper traces the evolution of the computer as a design tool from the era of line drawings to the present age. The paper asserts that the use of the computer is one of the most important contemporary transformations in architecture. The paper written by Adoke and Isa highlights the use of logical framework analysis as a tool in project management. It posits that architectural curriculum should recognize the use of the tool in addressing the needs of the society, especially in ameliorating the consequences of pollution in the environment. Kyari's paper addresses the safety of workers on construction sites. Its concern borders on construction activities as a window of career opportunity for architect-graduates. Chukwuma-Uchegbu affirms the need for a paradigm shift and emphasis in the curriculum in order to improve the quality of instruction given in Nigerian schools of architecture.

Ob'lama presents a study of the architectural programme in Nigerian polytechnics and examines the roles of the supervisory and regulatory bodies, stressing the need for greater collaboration between the bodies and architecture schools. Zubairu's paper examines the nature and complexities of Nigerian urban problems in the twenty-first century. It posits that the curriculum of architectural education should encompass behavioural science, local building materials technology, urban management and governance, and poverty reduction and employment generation. Abdukarim advocates a Meta theory, which reflects architecture as a confluence of science, art, culture, politics, engineering and technology. The scientific attributes of architecture on the one hand, and its normative and psycho-perceptual aspects on the other should be carefully synthesized if architectural curriculum is to be re-structured to cope with the changing demands of the twenty-first century. The focus of Haruna's paper is on the sustainability of a healthy global environment through proper designs and implementation of plans. It highlights the contribution of architecture to the realization of healthy living through the built erivironment. Anidi's paper examines educational specification programme as a specialized field in which the architect plays a vital role, especially in the coordination of the efforts of other professionals involved. The strategies for curriculum planning and development procedures for architectural education are examined by Olagunju et al. The focus is on the realization of the strategies as a panacea for proper training of graduate architects.

I commend the papers to curriculum planners, architect-academics, and practitioners alike in our collective aspiration to attain a humane and responsive environment which architectural education ultimately seeks to achieve.

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NOTE TO CONTRIBUTORS

AARCHES Journal, published twice a year, March and September, is a journal dedicated to the publication of articles which are a product of original research of the contributors, and which are meant to advance knowledge on the theoretical and practical aspects of the natural and the built environment. The purpose of the journal, therefore, is to provide an avenue for the dissemination of academic research findings dealing with environmental problems, planning, design and development for the purpose of advancing higher knowledge in architectural education generally, but in Nigeria, particularly. The journal also seeks to provide a forum for discourse of scholarship between teachers of architecture and researchers in related fields in the social and environmental sciences.

The journal will therefore accept, for publication, articles based on original research in all aspects of both the natural and the built environment. In addition, book reviews, comments, letters, announcements and short communications on all aspects of the environment and environmental education can be accepted for publication.

Preparation of Manuscript:

Manuscript must be in English, typed double spaced on one side of A4 (23cm x 21cm) paper with a length not exceeding 6000 words (about 15 pages) inclusive of tables and figures with a 250mm margin on all sides. Three copies of the manuscript must be submitted to the Editor–in–Chief AARCHES Journal, Department of Architecture, Federal University of Technology, Minna, along with N1000 handling fee in cash, or bank draft, payable to the Financial Secretary AARCHES.

Arrangement of the paper:

The paper shall be arranged in the following manner:

(i) Title, author(s)' names, affiliations and full address (es)
(ii) An abstract not exceeding 250 words to provide the purpose, procedure, significant results and conclusion of the research work.
(iii) The text, suitably divided into appropriate sections/headings
(iv) Acknowledgements (if any)
(v) References
(vi) Tables and illustrations

Units, Symbols and Abbreviations:

The preferred units are the SI as defined by the ISO standard. Where it becomes necessary to employ the use of units that may not be recognized an explanatory note may be included, as a footnote, the first time such units occur. Similarly, abbreviations that are not commonly recognized must be written in full at their first mention.

Illustrations:

Illustrations in the form of maps, diagrams, graphs, charts, and drawings should be presented on transparent sheets not larger than A4 size with the same margins as the text. Such illustrations should be sequentially numbered and given brief titles written below them.

Tables:

Tables, like illustrations, if large enough to be presented on separate sheets are also to be presented as prescribed for illustrations. They shall be numbered consecutively throughout the paper (with Arabic numerals) referring to them in the text as Table 1, 2, 3 etc. Letters of the alphabet may also be used instead of Arabic numerals. i.e Table a,b,c e.t.c. Tables should not duplicate results presented in graphs.

References:

References shall be presented at the end of the paper using the American Psychological Association (APA) also known as Harvard style, or the Author/year style. The format is usually as follows:

Journal Articles:

Takem, T.A. (1989): "Roofing Sheets in Tropical Climates and the Protection against moisture" Journal of Tropical Architecture Vol. 2 No. 4 pp. 25-31.

Books:

Meekyaa, U.J., Gyuse, T.T. and Uji, Z.A. (1990): Rural Urban Migration in the Third World. Yola: Paraclette Publishers.

Chapters in Books:

Alabi, T.Y. and Yobe, J.K. (1999): "Housing Without Houses" in, Koma, F.E. and Dakum, M.F. (Eds.) Urban Housing and The Urban Poor of the Third World. Jos: LECAPS Publishers (2nd edn.) pp.60-78

Final Submission:

All articles will undergo a double-blind peer review process. Contributors will receive copies of their referred manuscripts for amendments (if any) as recommended by the referees. Final submissions will then be required to be made in two hard copies of the articles plus a 3.5 floppy diskette or CD ROM, accompanied by a publishing fee of seven thousand naira (N 7,000.00) only in cash or bankdraft made payable to the Financial Secretary AARCHES. This fee is reviewable by the Editorial Board from time to time as circumstances may so dictate.

Off Prints and Reprints:

Each author will receive a copy of the journal for each published paper along with some offprint and/or reprint.

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TOWARDS A NEW CURRICULUM PLAN AND DEVELOPMENT FOR ARCHITECTURAL EDUCATION IN NIGERIA

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Abstract: Curriculum is a systematically organized course of teaching and learning that encompasses everything that students and teachers do. Planning is an act or process of achieving a goal, while development is the act to set forth possibilities of expansion by process of growth. Curriculum planning and development can therefore be simply defined as the act or process of achieving a systematically organized course of teaching and learning by process of growth. It is an important viable index for measuring adequacy of specialized courses in educational institutions. It is also an indicator which reveals the interdisciplinary attitude among specialized courses within and outside educational institutions. If properly planned and developed, it can form a significant force that will better the writing skills and critical thinking of graduate architects, thereby placing them among the future renowned philosophical thinkers through pen or computer. Hence the need to identify curriculum planning and development for architectural education as a panacea for proper upbringing of tomorrows graduate architects. The focus of this paper is directed at the strategies for curriculum planning and development procedures for effective architectural education in Nigeria. Special attention was given to teaching and learning of architecture in the higher institution, whereby philosophy, students, goals and objectives, structure and sequencing, instructional strategies, evaluation of learning, and evaluation of instruction were extensively discussed. Finally, useful suggestions were proffered towards successful implementation of the strategies.

Key words: *curriculum, development, education, graduate, teaching.*

INTRODUCTION

Curriculum can simply be defined as a set of courses constituting an area of specialization or a systematically organized course of teaching and learning that encompasses everything that students and teachers do (McLean, 2005). From this definition, for a meaningful curriculum planning and development,

much emphasis should be laid on teaching and learning styles. This approach to teaching and learning emphasizes the fact that individuals perceive and process information in very different ways and must be taught in like manner. The learning styles theory implies that how much individuals learn has more to do with whether the educational experience is geared toward their particular style of learning than whether or not they are "smart." In fact, educators should not ask, "Is this student smart?" but rather "How is this student smart?" . As a result of this gap, the focus of this paper is on the strategies for curriculum planning and development for Architectural education in Nigeria.

LITERATURE REVIEW

The concept of learning styles is rooted in the classification of psychological types. The learning styles theory is based on research demonstrating that, as the result of heredity, upbringing, and current environmental demands, different individuals have a tendency to both perceive and process information differently.

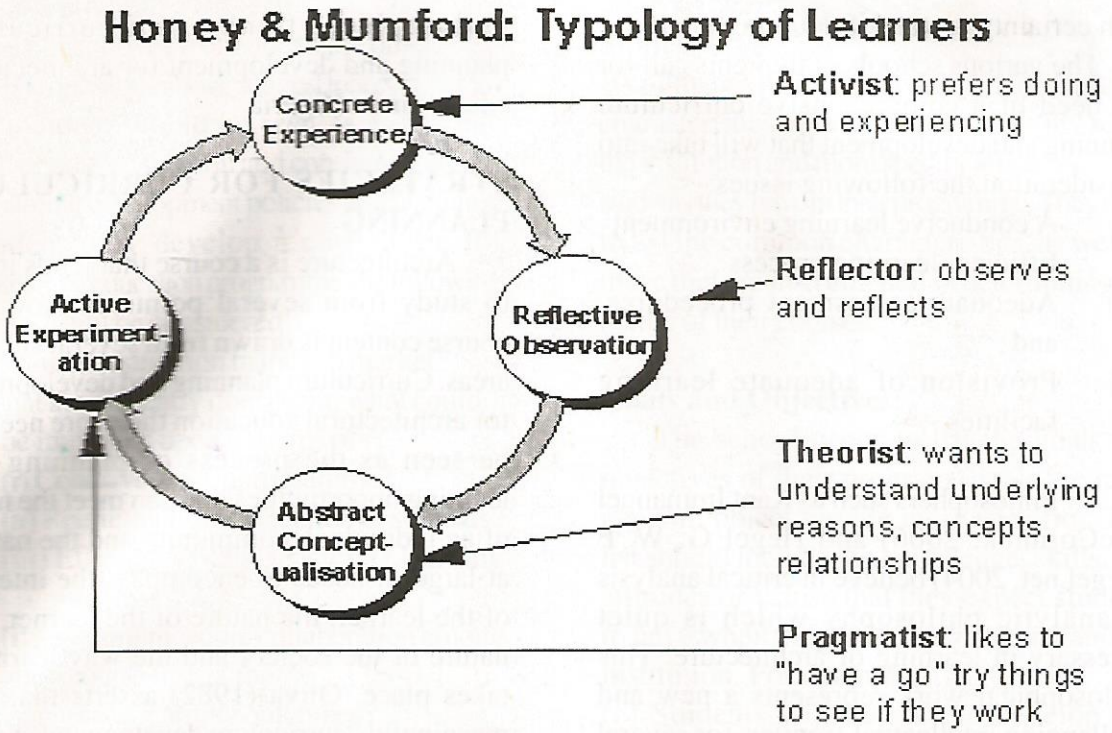

Figure 1: Experiential Learning Style
Source: In Honey and Mumford, 1982, (as cited in Atherton, 2005)
(This diagram illustrates a Learning Style,Typology of Learners, as modelled by Honey and Mumford)

The different ways of doing so are generally classified as:

a. Concrete and abstract perceivers:- Concrete perceivers absorb information through direct experience, by doing, acting, sensing, and feeling. Abstract perceivers, however, take in information through analysis, observation, and thinking.

b. Active and reflective processors:- Active processors make sense of an experience by immediately using the new information. Reflective processors make sense of an experience by reflecting on and thinking about it.

Traditional schooling tends to favour abstract perceiving and reflective processing. Other kinds of learning aren't rewarded and reflected in curriculum, instruction, and assessment nearly as much.

The most direct application of this model is to use it to ensure that (pace the reservations above) teaching and tutoring activities give full value to each stage of the process. This may mean that the mentor's major task is to "chase" the learner round the cycle, asking questions which encourage reflection, conceptualisation, and ways of testing the ideas. (The concrete experience itself may occur outside the tutorial/mentoring session). Also, in philosophy there are many school of thoughts, among which are empiricism, rationalism and scepticism. Empiricism deals with derivation of genuine knowledge from human senses and sensory perception, (that is, all human knowledge and ideas arise from experience). Rationalism also believes that genuine knowledge is derived from human reasons, instead of human experience. Scepticism equally believes that nothing can be known

with certainty, a state of doubting mind.

The various schools of thoughts call for the need of a comprehensive curriculum planning and development that will take into consideration the following issues:

(i) A conducive learning environment
(ii) Efficient learning process
(iii) Adequate assessment procedures, and
(iv) Provision of adequate learning facilities

Philosophers such as Kant Immanuel (McCormick, 2006) and Hegel G. W. F (Hegel.net, 2004) believe in critical analysis or analytic philosophy which is quiet necessary in learning of architecture. This philosophical work represents a new and challenging intellectual frontier, for several reasons. First, some of the most interesting new work is in what is loosely known as the "analytic" tradition, that is, the tradition of Western philosophy which places a high premium on rigorous argumentation which optimally employs the tools of logic and critical reasoning. Second, while architects may have some familiarity with analytic aesthetics and function, this knowledge has not been adequately utilized in either the theory or practice of indigenous architecture in Nigeria.

Curriculum planning and development therefore need to adequately provide for analytic philosophy in learning of architecture in Nigeria, so that the learners will have the opportunity to improve their writing skills, and critical thinking, for they may get no further formal training in these abilities. The absence of this opportunity in architectural education curriculum today, the education provider should expect the learners to have missed much of the point of the philosophical enterprise and a total denial of a chance to 'think' philosophically through the pen or keyboard. As a result of this gap, the focus of this paper is therefore directed to a discuss of the strategies for impacting philosophical thinking in curriculum planning and development for architectural education in Nigeria

STRATEGIES FOR CURRICULUM PLANNING

Architecture is a course that lends itself to study from several points of view. Its course content is drawn from several subject areas. Curriculum planning and development for architectural education therefore need to be seen as the process of planning for learning opportunities that can meet the need of an individual, community and the nation at large. It needs to encompass the interest of the learner, the nature of the learner, the nature of the society and the way learning takes place. Oliva (1982) asserts that any meaningful "curriculum development should be able to answer the following questions systematically:

a. What is a curriculum? What does it include and what differences are there between the issues of curriculum and those of a method of teaching?
b. What are the chief elements of curriculum and what principles govern the decision regarding their selection and the roles they play in the total curriculum?
c. What should be the relationship between these elements and their supporting principles and what criteria and principles are applied in establishing these relationships?
d. What problems and issues are involved in organizing a curriculum and in making decision about the patterns and methods of organizing it?
e. What is the relationship of a curriculum pattern of design to the practical and administrative conditions under which it functions?
f. What is the order of making curriculum decisions and how does

one moves from one to the other?"

The questions above suggest that curriculum development should be seen as a dynamic process, or as an integral and continuing part of educational development policies and planning. To adequately develop a curriculum for architectural education programme, the following issues should be considered: -

a. The current situation in the job market?
b. What are currently done right, what could be improved upon in terms of
   (i) Cohesiveness of programme?
   (ii) Recruitment and retention of students?
   (iii) Efficiency of the teaching / learning process?
   (iv) Communication, collaboration among course instructors?
   (v) Student learning outcomes?
   (vi) The learning environment?
   (vii) Assessment procedures?
   (viii) Responding to diversity among students?
   (ix) Use of resources?

CURRICULUM DEVELOPMENT PROCEDURE

To accomplish a meaningful curriculum development, it is necessary to adopt some of the following steps:

Philosophy:

The school needs to write down their beliefs, assumptions, and values as it relates to their architectural programme and their teaching methods so that: -

The programme is essentially for the training of students for architecture profession and architectural design to be the core programme. The school has a responsibility to encourage independent student learning to be critical thinkers.

Students:

The school needs to review the characteristics of students they typically see in the institution and more specifically those of the students they have in their programme. They need to list the common characteristics, as well as those that are instrumental in determining the nature of their courses.

Goals and Objectives:

The school needs to list the goals and objectives of their program (goals are more general; objectives are more specific). This list should include the knowledge, skills, and attitudes or values that they expect students to have when they leave the program and the institution. For example,

(a) Students will be able to develop and implement computer simulations
(b) Students will be able to create modern architectural designs
(c) Students will be able to critically review research articles in the discipline

Structure and Sequencing:

The school needs to review each individual course in their programme to determine its contribution to the goals and objectives. Also, to consider which course leads into other courses - the sequence in which students take the courses and/or are required to take the courses. They should try to develop a 'flow chart' or a hierarchical diagram that illustrates the interrelationships among courses in the program and how they lead to program goals.

This analysis might reveal gaps, redundancies, or illogical sequences in the program. If so, changes in course syllabi should be considered and discussed at this point.

Instructional Strategies:

The school should list out the instructional strategies (methods and materials) considered necessary for each course or contact lecturers of each course about

the following: -

a. lecture and questioning
b. group work
c. computer simulations
d. library readings
e. textbook and assigned readings
f. These strategies should be analyzed as to the degree to which they;
   i. Meet the needs of the described student population; and
   ii. Match the nature of the institution, program goals and objectives.

Evaluation of Learning Outcomes:

The school should list out the techniques through which student learning can be evaluated, such as independent projects, tests, assignments and examinations.

As with strategies, these techniques should be analyzed as to the degree to which they:

a. Meet the needs of the described student population;
b. Match the instructional methods and materials used; and
c. Match the program goals and objectives, as well as the goals of the institution.

A general rule here is that one must 'evaluate what is taught'. Evaluations should not only reflect the content of the course and program, but also the nature and type of expected learning.

Evaluation of Instruction:

The school should determine the effectiveness of instruction in the courses and program evaluated? This is as much a part of the curriculum as evaluation of learning. These techniques can be useful in evaluation of students work. The techniques may include the following:

a. student ratings of instruction
b. review of student work
c. peer review of course outlines

All the aspects of the program need to be regularly and systematically reviewed for the purpose of making changes and improvements in the program. In view of these enumerated facts about curriculum development, care must be taking to adequately develop a meaningful architectural education program which can give room to the evolution of Nigerian indigenous architecture.

In support of this is the model developed by Shibeck, called "situational model" (Oliva , 1982). This model has five major components:

a. Situational analysis, which involve a review of the situation and an analysis of the interacting elements constituting it. External factors to be considered are broad social changes including ideological shifts, parental and community expectations, the changing nature of subject or disciplines and the potential contribution of teacher-support systems such as colleges and universities. Internal factors include pupils and their attributes, teachers and their knowledge skills, interests, aspirations so on, school ethos and political structure, materials, resources and felt problems.
b. Good formulation with the statement of goals embracing teacher and student activities (though not necessarily expressed in behavioural terms). Such are derived from the situational analysis only in the sense that they represent decisions to modify that situation in certain respects.
c. Programmes building which comprises the selection of subject matter for learning, the sequencing of teaching/learning episodes, the development of staff and the choice of

appropriate supplementary materials and media.

d. Interpretation and implementation where practical problems involved in the introduction of a modified curriculum are anticipated and then hopefully overcome as the installation proceeds.

e. Monitoring, assessment, feedback and reconstruction which involves a much wide concept of elevation than determining to what extent a curriculum meets its objectives. Tasks include providing ongoing assessment of progress in the light of classroom experience, assessing a wide range of outcomes (including pupils' attitudes and the impact on the school organization as a whole) and keeping adequate records based on response from a variety of participants.

This model is very adequate to Nigerian situation and highly recommended for architectural education curriculum development in Nigeria in the following order of Wheeler's model (Oliva, 1982):

a. Aims and objectives: - This is usually influenced by society's accepted needs and values.

b. Selection of learning experiences: – This may include lectures, field trips, design competitions, laboratory and other practical exercises.

c. Selection of content: – The content to be taught in a higher educational institution is usually decided upon by the higher education institution's authorities who set up the programme. Where the curriculum is to be improved or revised, the existing content is reviewed by adding new topics that have become essential. If an entirely new course is to be developed a survey of what should be offered to fulfil the stated goals is undertaken.

d. Organization and integration of learning experiences and content: – This is the scope of the content to be covered, whereby each learning experience is matched with the appropriate content area.

e. Evaluation: – This is where the extent to which the objectives are realised in practice is examined, thereby indicating the effectiveness or otherwise of the curriculum.

The above needs are to be arranged according to Wheeler's model "... in a cyclical form so as to reflect the relatedness and independence of each stage upon one another so that in the final analysis, the final stage affects the initial one" (Oliva, 1982).

Proper implementation of this model in curriculum development of architectural education in Nigeria will enhance quality learning about the natural and built environment that can provide a real-world context for learning by linking the classroom to the students' community.

RECOMMENDATIONS

i. Emphasis should be laid on intuition, feeling, sensing, and imagination of average learner, in addition to the traditional skills of analysis, reason, and sequential problem solving.

ii. Collaborative learning should be encouraged in the curriculum planning, since much of learning happens within important social and environmental contexts.

iii. Curriculum operators should provide incentive for good student at the end of competitions. They should provide a supportive environment such as a well furnished drawing studio.

Instruction:

Lecturers should be informed about the need to design their instruction methods to link or connect with all four learning styles, using various combinations of experience, reflection, conceptualization, and experimentation. Instructors can introduce a wide variety of experiential elements into his or her course, such as analytical assignments, site visitations, individual and group design projects, and even quick approach design competitions.

Assessment:

Lecturers should employ a variety of assessment techniques, focusing on the development of "whole brain" capacity and each of the different learning styles, such as community based problem solving design projects.

Lecturers should also be encouraged to organize tutorial classes at the end of each semester course taught by way of taking students round the course syllabus cycle, asking questions which encourage Reflection, Conceptualization, and testing of ideas.

Project supervisors need to be informed about the need to be the student's project facilitator and not dictator. They should allow student's full interaction with the project so as to aid their professional growth and independence.

CONCLUSION

In view of the aforementioned, it is pertinent to lay more emphasis on Curriculum Development and Planning in achieving a meaningful architectural education in Nigeria, if not worldwide with high consideration for Honey and Mumford, Shilbeck, and Wheeler's models.

REFERENCES

Atherton, J. S. (2005). Learning and Teaching: Experiential Learning Cycle. Retrieved July 12, 2005, from http;//www.learningandteaching.info/learning/experience.htm

Hegel.Net (2004). A Short Overview of Hegel Philosophy. In The Internet Encyclopaedia of Philosophy. Retrieved January 12, 2006, from http://www.hegel.net

McCormick, M. (2006). Immanuel Kant (1724 – 1804) Metaphysics. In The Internet Encyclopaedia of Philosophy. Retrieved January 12, 2006, from http://www.utm.edu/research/iep/k/kantmeta.htm

McLean, M. (2005). Curriculum. In The new Microsoft Encarta Encyclopaedia (Standard Ed.). Multimedia Encyclopaedia.

Oliva, P. F. (1982). Developing The Curriculum. Boston: Little Brown Company.