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Studio Experience of Architecture Academic Staff in Selected Tertiary Institutions in Southwest Nigeria

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The '*studio*' both as a functional space and a core architectural design course, plays a very important role in the training of architecture students. Previous studies on the studio had focused on the students. This paper, therefore, reports on the studio experience of both lecturers/faculty in the Department of Architecture of selected tertiary institutions in Southwest Nigeria. It explored their studio philosophy, teaching methods, relationship with their students and perception of students' performance. The study adopted a mixed method of research. Qualitative data were obtained via the review of relevant literature while quantitative data were obtained via the use of a structured questionnaire administered to 91 respondents in the study population. Respondents were randomly selected from architecture lecturers in selected tertiary institutions in Southwest Nigeria. Qualitative data were analyzed using content analysis and quantitative data were analyzed with statistical package for social sciences (SPSS) and the result is presented descriptively with the use of a table and charts. The findings of the study revealed that there is a variance in the relationship between students and lecturers in private and public schools. Also, different teaching methods entrench students learning and the ICT revolution has brought about a paradigm shift which mandates the use of Computer Aided Design (CAD) in the architectural design programme of Nigerian tertiary institutions. The paper recommends that further studies be carried out in tertiary institutions in other parts of the federation to give the study a national outlook.

***Keywords**: Studio; Studio Experience; Architectural Training; Southwest Nigeria*

Introduction

The primary aim of architectural training is to improve human habitat by contributing to the fulfilment of a humane and responsive environment for healthy living. Globally, architectural training encapsulates multiple disciplines and often requires rigorous exposures to practical situations. Thus the architectural design studio as a course is geared towards training students on environmental problem-solving skills (Masaruf & Muhammad, 2016). The studio as an architectural design course in Nigerian tertiary institutions is molded after the American and British models of architectural training. However, the programme has gone through phases of major changes to reflect the aspirations and needs of the country (Olotuah & Ajenifujah, 2009). These modifications of architectural training have led to a rigid approach to educating young minds. Compared to architects of old who learnt architecture as a trade, the learning curve may have gotten a little steep. The prerogative to study architecture is no more as it were, rather, it is determined by the results of compulsory education. This result is what bridges the aspiring architects to a platform which the ambitions can be answered (Faramarz, Miles & Qinghua, 2015).

The term 'studio' in architecture training often refers to the functional space provided for students of the school to work and study. This space is often used for classes as well as design and in some cases provides a place of refuge for the creative mind. The second

is the design course, one of the heaviest and most important courses provided by the design school. It is often the foundation of every architecture department in Universities. It can often be the lynchpin in design courses (Ahmad, 2017). A large part of the architecture student's experience comes from the studio. The grueling hours spent ensuring that the design brief presented at the beginning of the school year is met with the most appropriate design. The space used to educate the students is a fusion of the following spatial components known as physical, pedagogical, and virtual (the classroom through the internet) space that has an effect on the education of the participants namely the students and their lecturers (Ahmad, 2017).

The design course is a directional guide for architectural design and it engages students, teachers and other stakeholders in multiple activities resulting to what is generally known as studio culture (Aderonmu, Alagbe, Opoko, Oluwatayo & Alalade, 2013). It focuses on stimulating the creative mind to produce works as diverse as the students themselves; now with the provision of building information models, the design course is more flexible and volatile as ever. Other modes of showing off the creative mind to consider are through sketches, conceptual and scale models and written work (Michael, Ross & Sten, 2009). However, it is unchanging that the design studio course is supervised by lecturers on campus whom more often than not are architects (Ahmad, 2017). In examining how lecturers as mentors in architecture perceive studio coordination, it is important to observe if the mentorship of students is found to the lecturers.

The design studio is the physical site which has the multiple functions of facilitating learning and teaching. It is a space in which an active interaction takes place between the students of Architecture and the faculty i.e. the professional architects. The studio as a functional space in which students of Architecture are taught, is one of the seven modules of study in schools of Architecture in Nigeria, as set down by the National Universities Commission (N.U.C.) (Olotuah, Taiwo & Ijatuyi, 2016). Also, Olotuah *et al.* (2016), asserted that the design studio is pivotal to the programme and practice of Architecture in Department of Architecture in Nigeria. It is a functional space in which students of Architecture or/and architects produce their drawings. The design studio apart from serving as a workspace for the students, also plays the role of the course of study which is primary to the education of architecture students; carrying about 50% of the credit hours and the units which are a requirement of the architecture students in many Universities to earn a first degree, i.e. Bachelor of Science, Bachelor of Architecture or Bachelor of Technology. The studio is where the adoption of the architecture students into the profession occurs; it is the space in which these students are taught the skills which prepare them for relating with the built environment, their tutors and with their peers (Tumusiime, 2013).

Studio Experience of Faculty

Architectural education is a system of education which has been passed down from past educational systems which are still being practiced today; it involves the apprenticeship system. Alagbe, Aderonmu, Opoko, Adeboye, Akinjare, and Izobo-Martins (2015), identified that architecture design studio is the heart of architectural education just like a theatre is synonymous to apprenticeship of medical students. According to Lubis, Hamid, Pane & Marpaung (2018), the apprenticeship system is one of the most appropriate processes in practical work as well as in the design studio. This process is influenced to a large extent by the level of interaction in the design studio; tutors of architecture should be able to become both the facilitators and stimulators of the creativity of the students in the process of design. Also, Opoko & Oluwatayo (2015), revealed that an architect is essentially a product of the training received in school. Hence, the basic knowledge and skills required for professional practice must be obtained adequately in departments of Architecture.

The studio experience by students is pivotal to understanding their interpretations of architectural education, with the large amounts of time they spend in the studio creating certain patterns of behavior that may affect their perceptions of the space around them (Tumusiime, 2013). However, despite the studio experience by students being central to their understanding of architectural education, there is a gap in the literature concerning the lecturers' experience of the studio and how it affects the studio pedagogy i.e. the art and science of teaching.

Aderonmu (2013), defined pedagogy as the practice of teaching or the study of teaching; or the study of teaching methods ordered in a particular style. Similarly, Olotuah *et al.* (2016) stated that studio pedagogy is a term which simply refers to the strategies and style of instruction which are undertaken by the tutor in the transferring of a body of knowledge to his / her students; the body of knowledge, in this case, being the architectural programme of the student. The scope of Architectural education is wider than simply the transmission of knowledge to the student. It constitutes, in addition to the acquisition of academic knowledge and skills, the processes involved in the all-round and full development of the student both as an individual and as a member of society (Aderonmu, 2013). Good teaching should not only be limited to the subject knowledge, but should also involve a combination of the methodology of teaching, the psychology of learning and of learners, and an especially relevant creative attitudinal orientation on the part of the teacher Olotuah *et al.* (2016). Studio coordinators have a time set aside by the institution in which their respective mentees. The additional time set aside from the designated class time where coordinators relate with students is considered in the ongoing research.

The term curriculum refers to the lessons and academic content taught in a school or in a specific course or program (Aderonmu, Alagbe, Opoko, Oluwatayo & Alagbe, 2014). Nigerian institutions of architecture departments tend to prepare most of its students for the world of practice, but not often the world of education. The fact that teaching architecture is not a part of the curriculum makes the emergence of architects that would venture into the world of teaching low. The approach of the lecturers towards the teaching of the students should be one which would lead to effective learning, imparting a knowledge and skills acquisition which is in depth and lasting. Learning in the design studio hinges on the teaching approach of the lecturers, their teaching methodology and the school curriculum (Olotuah, & Adesiji, 2005). It is of considerable importance in the study of architecture that the approach of lecturers in the imparting of knowledge to the students', should be such that it encourages maximum interaction between the students and the lecturers, thereby helping to build a good foundation for effective learning. Below are various formats which can be adapted to suit particular situations, disciplines, and sizes of classes in lecturing (Olotuah *et al.*, 2016).

i. Construction/Creative Method. The method emphasizes the practical aspect of learning; it tests the creative ability of the student and is particularly appropriate for the design studio in architectural education. It includes freehand drawing, sculpture, and painting.
ii. Problem Based: This method encourages students to think for themselves. It could begin with the lecturer posing a question, quizzes, puzzles or paradox.
iii. The Case Study Method: This follows a realistic situation step-by-step to illustrate a general principle or problem-solving strategy.
iv. Inquiry Method: The lecturer involves the students in activities of collection, assimilation analysis, and presentation of data. It comprises surveys, interviews, questionnaire administration, and field trips.

Methodology

In achieving the objectives of this study, two strategies were adopted for data collection, namely; review of pertinent literature, and structured questionnaires issued to lecturers in the selected schools. The questionnaire

was divided into three sections to elicit information from the lecturers in the selected schools. Section A comprised of four questions on respondents' socioeconomic characteristics, section B comprised of six questions on studio experiences of the respondents and section C comprised of questions on the teaching methods of the respondents. The research included a study population of four universities in the southwest, two public and two private schools namely; Covenant University, Bells University, University of Lagos and Federal University of Technology Akure. The Bells University of Technology has a population of 13 departmental staff, Covenant University has 21, Federal University of Technology Akure has 40 and University of Lagos has 38. The sum total of all faculty involved in studio education and tutoring is 112.

Since the study is characterized by a finite population, the Yamane Taro equation was considered most appropriate to determine the minimum sample size required.

Using $nY = \frac{N}{(1+Ne^2)}$.....eqn (i)

Where N=Population size, and e= alpha level, i.e., e=0.05 based on a confidence level of 95%.

The minimum sample size required is; $\frac{112}{(1+112(0.05^2)} = \frac{112}{1.28} = 87.5 \cong 88$.....eqn (ii)

Result presentation and discussion

Since the minimum sample size required was 88, 100 questionnaires were distributed to give more validity to the results and a total of 91 valid responses were obtained and analyzed with SPSS statistical package. The results are presented in a table and charts.

Social Demographics of the Lecturers

This section has four categories; institutional affiliation, gender, age and teaching experience (in terms of duration) of respondents. As seen in Table 1, 69.7% of the respondents were male lecturers and 30.3% were female lecturers. 31.4% of the respondents are between the ages of 41-50 years. Other respondents are in the age category of 20-30, 31-40, 51-60, 60 and above at 15.2%, 27.3%, 12.1% and 6.1% respectively. A greater percentage of the lecturers have teaching experience of 11-15 years. This implies that the respondents have a sufficient level of experience in teaching architectural studio courses.

Table 1: Social Demographics of the Lecturers

Variable	Frequency	Percentage (%)
Institution		
Covenant University, Ota	21	23.08
Bells University of Technology, Ota	11	12.09
University of Lagos, Akoka	32	35.2
Federal University of Technology, Akure	27	29.63
Total	91	100
Gender		
Male	63	69.69
Female	28	30.30
Age (Years)		
20-30	17	18.68
31-40	25	27.47
41-50	30	32.97
51-60	14	15.38
Above 60	5	5.50
Length of Teaching (Years)		
0-5	14	15.38
6-10	25	27.47
11-15	36	39.56
16-20	11	12.09
Above 20	5	5.49

Table 1 reveals that the majority of the responses (64.8%) were from the two public Universities. This can be attributed to the fact that public schools require a larger number of lecturers because of their population to meet the 1:12 staff to student ratio of the National Universities Commission. Also, female lecturers in the study are only 30.30%. This is in line with the study carried out by Opoko and Oluwatayo (2015), which reported that gender disparity is a key issue facing architectural education and practice in contemporary times which is attributed to a lack of level playing field.

Studio Experience of Respondents

This section comprised questions that were based on the personal experience of the respondents as studio coordinators. Figure 1 shows the result of the respondents who have been studio coordinators, Figure 2 shows the result on what influences the mentors method of instruction, Figure 3 shows results on preference for studio courses, Figure 4 shows perception of the influence CAD has on modern-day architectural training and Figure 5 shows the perception on allowing younger lecturers to be studio instructors.

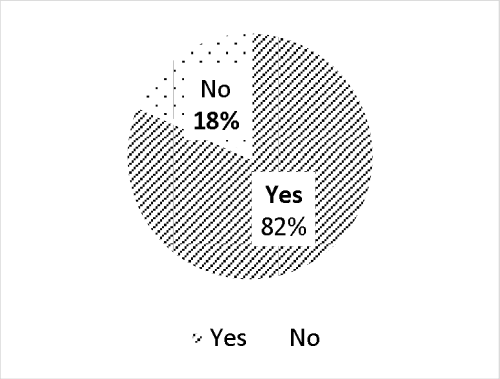

Figure 1: Respondents who have been studio coordinators

Lecturers in the field of Architecture are usually involved in studio mentorship. As indicated in Figure 1, 82% of the respondents had been studio coordinators while 18% have not been studio coordinators. During an interview with a respondent, it was stated that the responsibility of studio coordination is reserved for lecturers with higher years of mentorship experience.

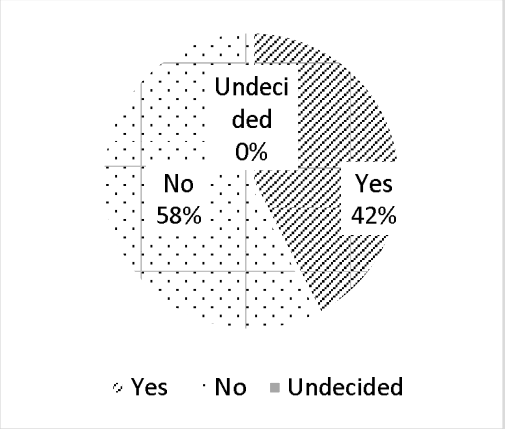

Figure 2: Influence of how the respondents learnt on their teaching methods

As indicated in Figure 2, 58% of the respondents teaching methods are influenced by how they were taught, 42% of the respondents devised teaching methods different from how they were taught in school. However, an interview with a respondent revealed that a mix of strategies is preferred in other to be abreast of current advancements in technology. This is in line with the report of Abubakar (2012), that curriculum content should be expanded in the areas of ICT, management, and entrepreneurship to increase the capabilities of graduate architects.

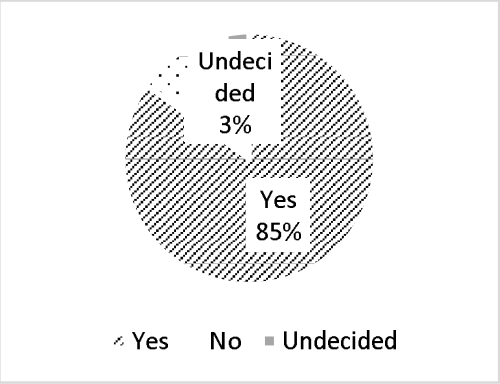

Figure 3: Respondent's preference for taking studio as a course

Respondents were asked if they would take other courses instead of a design studio. As seen in figure 3, 85% reportedly prefer to be studio coordinators. Inferentially, most architecture lecturers want to be studio

coordinators because it creates a better avenue for imparting knowledge on the student's professional outcome. For architectural programmes to meet the essential aim of promoting human habitat, the students must be trained to be skillful and qualified to make vital contributions to the development of architecture in the event that they become studio members in their career.

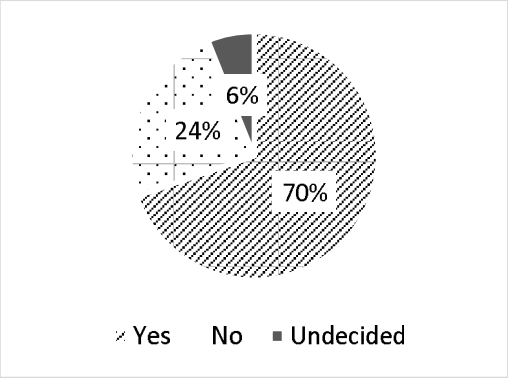

Figure 4: Perception of the influence of CAD on Architectural education

Respondent's perception of the influence of computer-aided design (CAD) on architectural education was also measured. As indicated in Figure 4, 70% of the lecturers acknowledged the importance of CAD in architectural education, 24% did not agree that CAD has an influence and 6% were undecided. This result implies that CAD has become a fundamental part of architectural studies in Nigerian Universities and should be embraced for design studio courses. Olotuah (2004) reported that less than 30% of Nigerian architects learnt the use of CAD software during their training in school because it had not been integrated into the design programs. However, this result reveals there is a paradigm shift and majority of students now acquire CAD skills for architectural design in school.

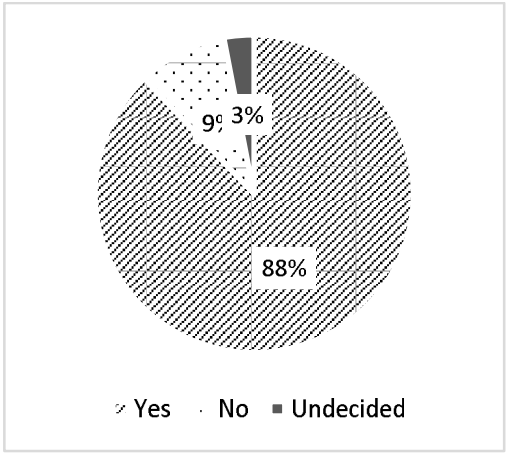

Figure 5: Respondent's perception of younger lecturers taking studio

From the result in Figure 5, 88% of the respondents reported that studio coordination should be done by junior lecturers, 9% of the respondents reported that it should be for only senior lecturers and 3% were undecided. This result is not consistent with interview findings reported in Figure 1 and what is obtainable generally in Architectural training in Nigeria.

Teaching Methods Adopted by Respondents

This section comprised questions that were based on the teaching methods adopted by lecturers in the selected tertiary schools offering architecture as a programme. Frequencies were generated in this section. Figure 6 shows the preferred methods of teaching adopted by respondents, Figure 7 shows the respondent's methods of helping students come up with design solutions, Figure 8 shows the respondent's source of inspiration for the student's design solutions, Figure 9 shows a report on the percentage of students who take respondents design criticism, Figure 10 shows the respondent's relationship with students and Figure 11 shows respondents' experience as lecturers.

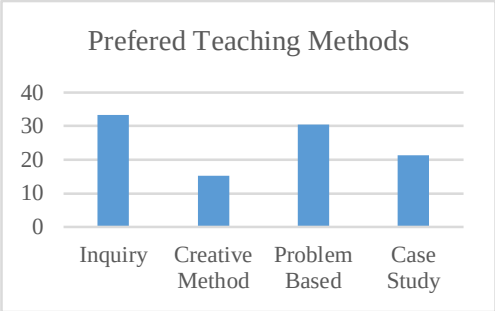

Figure 6: Respondent's preferred teaching methods

According to Figure 6, the data analyzed indicated that 33% of respondents utilized the inquiry approach to mentor in the architectural design studio. Subsequently, approximately 30% of the respondents made use of the problem-based approach to allow students the opportunity to develop answers by analytical means to problems posed to them. 15% of the respondents utilized the creative method to approach mentorship in the design studio, testing the creative nature of the students. The final percentage of respondents which was 21%, is made up of respondents who applied the case study approach by following already working simulations and models to mentor student in the design studio. The result implies that as education evolves, lecturers subject their students more to research to enable them to come up with solutions that can be used both locally and at the global level. This result is consistent with the proposed areas of intervention for effective architectural education by Opoko & Oluwatayo (2015) which states that as a result of the pace of change in this ICT revolution, architectural students should not be limited to training in the class room alone but should be exposed to systematic ways of fact findings.

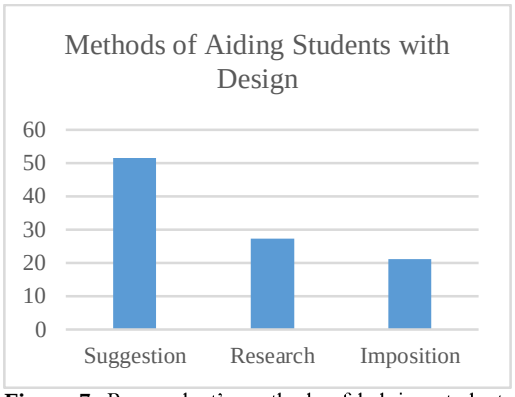

Figure 7: Respondent's methods of helping students come up with design solutions

According to Figure 7, approximately 52% of respondents utilize the suggestive method when trying to aid students in architectural design, while approximately 27% engage in research with their students to aid design and proffer solutions to design problems. Subsequently, 21% impose ideas and concepts while mentoring students during the architectural studio. This suggests that final design solutions are decided by students in line with the ideas of their lecturers and the research they undertake. The findings are synonymous with Adetunji (2014), which reported that lecturers suggest or give solutions to architectural students in their design and theory courses.

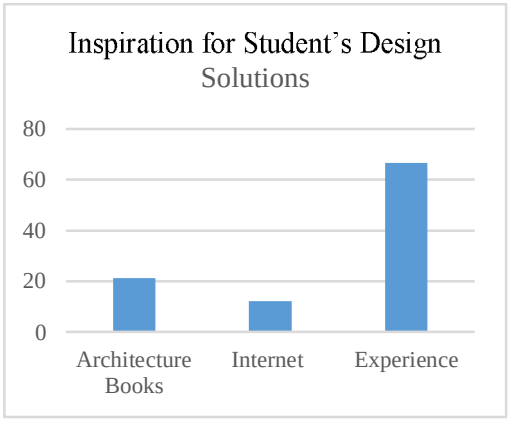

Figure 8: Respondent's source of inspiration for student's design solutions

From the result in Figure 8, the data analyzed indicates that approximately 67% of studio mentors rely on experience as a means of educating students in the architectural design studio. While approximately 21% rely on architectural books to inspire students, the remaining

12% rely on the internet. This result suggests that highly experienced lecturers should take design classes more often.

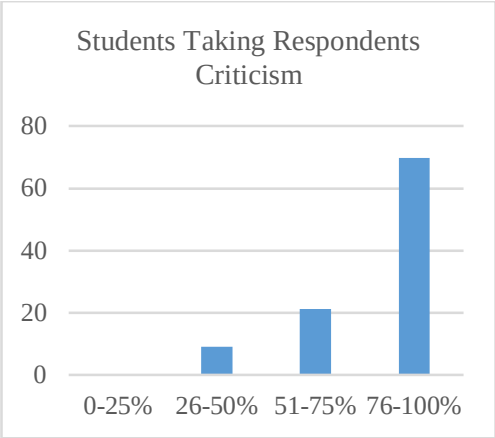

Figure 9: Percentage of students who take respondents design criticism

According to Figure 9, 70% of the respondents indicated that 76-100% of students take criticism into consideration while designing during the architectural design studio. Therefore, it can be said that most students value and effect corrections made during design studio.

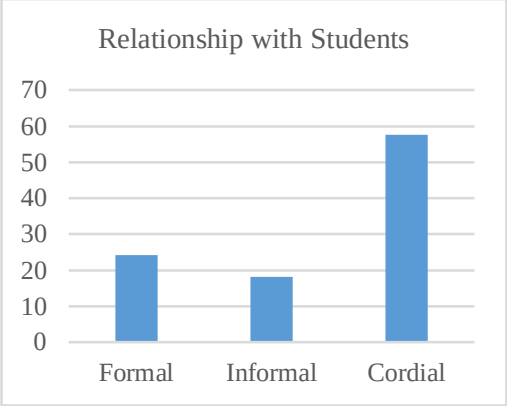

Figure 10: Respondent's relationship with students

From the result in Figure 10, 58% of respondents alluded to cordial relationships with students, 18% of respondents alluded to an informal relationship with students and 24% of respondents indicated a formal relationship with students. The result is somewhat consistent with the findings of Afolami, Olotuah, Fakere and Omale (2013) in terms of monitoring the progress of architecture student's by maintaining a good teacher-student relationship to produce quality problem solvers. Based on this result, it is pertinent to note that studio courses are interactive in nature.

According to Figure 11, 55% of the respondents indicated a fulfilling experience as studio mentors. 33% of the respondents alluded to a stressful experience while 12% alluded to a dull experience. This result suggests that the studio experience is usually fulfilling. During an interview, a respondent explained that the fulfillment comes from the progress and improvements made by the students.

Conclusion

The findings of this study reveal that a strong relationship between the lecturers and their students is very vital for growth and development in architectural design. It showed that the lecturer's personal experience in the field of architecture also plays a huge role in the design process of students by facilitating, coaching and design critique. Lecturers in architectural studies subject their students to provide design solutions for real-life situations via research and suggestions based on their experiences. Previous research in architectural design studies does not address the perception of lecturers on the learning process and development of students. Therefore, this study has bridged the gap that exists and recommends further studies on the studio experience of lecturers with regards to their student's development.

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