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Professional methods of assessments in architectural design projects: A focus on the relevant parametric measures in selected Nigerian universities

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Abstract: In Architecture, Engineering and other allied professional fields, the methods of assessment has for some decades been parametric. In an effort to carry out assessment for the grading of design works, the students have in many ways been confronted with bias, fear, intimidation, uncertainty, and mistrust from peers, studio teacher-instructors, observers, professional jurors, and other stakeholders involved within the process. The research employed a multi-stage stratified purposive sampling technique in which questionnaire responses were analysed using SPSS with regression analysis. The analysis was used for observations, focus group, and oral interviews. In this study, assessment of parameters and methods of grading employed in the Architectural Design Jury with specific reference to four (4) selected universities in Nigeria was made. Several factors militating against the conduct and ethics of the jury methods were also identified. The results revealed key findings in the four selected schools and each performed differently in terms of some significantly relevant parametric factors such as the Jury Review and Format, the Jury Purpose, Hierarchy and its Inherent Pedagogies, the Jury Objectives and Parameters and the

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PUBLIC INTEREST STATEMENT

This study evaluates the professional methods of assessment used in architectural design projects, with a focus on the relevant parametric measures in selected Nigerian universities. In architecture, engineering and other allied professional fields, the methods of assessment has for some decades been parametric, where during grading of design works, the students have in many ways been confronted with bias, fear, intimidation, uncertainty, and mistrust from peers, studio teacher-instructors, observers, professional jurors, and other stakeholders involved within the process.

The factors considered dwells on standards, qualifications, proficiency and competency in ethical conduct and practice that are associated with jury assessment.

The study recommends a dialogically comprehensive approach as jury assessment methods, which is sufficient to meet the ideological, professional and competency need of the stakeholders involved in the architectural design projects, built environment and other allied professional fields.

Jury Prospects. The engagement of these parametric measures would empower architecture students, jurors, architect-designers, engineers, educators, builders and other allied professionals to make robust and meaningful decisions to attain design satisfaction for the clients and end-users. From the analysis, a dialogically comprehensive parametric process was identified as fit to proffer pragmatic solutions to address trivialities of the problem and is able to fix in answers to related design issues.

Subjects: Education - Social Sciences; Architecture; Educational Research

Keywords: architecture; assessment; design studio; jury; professional; dialogical assessment; built environment

1. Introduction

The word Professional is connected with a job that needs special training or skill, especially one that needs a high level of education (*Oxford Advanced Learners Dictionary* (*OALD*), 2015). It deals with standards, qualifications, proficiency and competency in its ethical conduct and practice. Being presented with such title is an honour that should not be treated lightly, as careers in any field offer service to the society with great reward. In universities and other related higher education, especially in architectural and engineering design projects, evaluation of students' works are usually done per semesters or sessions by professional methods of assessment. Assessment in this case may mean an opinion or a judgement about somebody or something that has been thought about carefully (OALD, 2015); or termed as the process that faculty use to grade student course assignments, to standardized testing imposed on institutions as part of increased pressure for external accountability (accreditation agencies), or to any activity designed to collect information on the success of a program, course, or University curriculum; or the systematic collection and analysis of information to improve student learning and; the process of forming a judgment about the quality and extent of student's achievement or performance. But these methods of grading and assessment may differ in process and conduct depending on the philosophy that underpins each profession.

Grading in its own sense refers to the activity of checking and correcting the written work or exam papers of students (OALD.8, 2015); evaluation of student achievement on a larger scale, either for a single major piece of work or for an entire course. Scores or marks often serve as the raw material for grade determinations, especially when they are aggregated and the result converted into a different symbolic representation of overall achievement, i.e. in form of letters (A, B, C, D, etc.), descriptive terms (such as Distinction, Honors, Credit, Pass, etc.), or numerals (such as 7, 6, ..., 1). Numerals are usually deemed to represent measurements and this provides a straightforward rout to the calculation of Grade Point Averages, (Utaberta, Hassanpour, & Bahar, 2013) per semester. With this, students may necessarily need to have knowledge of their works, how and what type of criteria will be assessed. This will enable students to shape their work appropriately during the design process and specifying the bases for grading help to provide a rationale for grading judgments after they have been made and the results given back to the students.

In the same way, parameter is something that decides or limits the way in which something can be done (OALD.8, 2015); either set or defines to carry out a form of assessment. In professional programmes like Architecture and engineering, parametric measures of assessment of design works are considered, either in training to measure students' progress and achievement or in practice and contract selection procedures. In architecture and engineering practices all over the world, Jury has been a medium of assessment of students' works, contract award and design competition and exhibition selection process. Thus it is mainly purposed to assessing and improving students' studio learning and knowledge (Amedeo & Dyck, 2003; Ilozor, 2006) and professional developments. There can be little argument that the design jury features as a key symbolic event in the education of the architect. The centrality of the design jury as an epistemological site incorporates skills, beliefs, and values but the disagreement about it and assessment learning outcomes had remain a gestalt

therapeutic concern. While critical pedagogues argue that the design jury is a critic-centered ritual that coerces students into hegemonic notions of professional identity, the more commonly held conception is that the jury is a student-centered event that supports students in the construction of their own architectural identities-styles. This study problematized Jury activities as dialogic and pedagogic events that can be carefully constructed to scaffold students' learning, teachers' instruction and assessment methods.

In this study, for the purpose of benchmark, accreditation, and improvement on the pedagogic activities, documentation was included from other allied field i.e. engineering. This study aims to examine the parameters of professional methods of assessment in architecture schools of four (4) selected universities in Nigeria.

2. Literature

2.1. The assessment in professional education and best practices in schools

In tertiary category, the American Association for Higher Education's (AAHE) principles of good practice for assessing student learning highlighted several key denominator terms that the: assessment of student learning begins with educational values, assessment is most effective when it reflects an understanding of learning as multidimensional, integrated, and revealed in performance over time, assessment works best when the programs it seeks to improve have clear, explicitly stated purposes, assessment requires attention to outcomes but also and equally to the experiences that lead to those outcomes, assessment works best when it is ongoing, not episodic, assessment fosters wider improvement when representatives from across the educational community are involved, assessment makes a difference when it begins with issues of use and illuminates questions that people really care about, assessment is most likely to lead to improvement when it is part of a larger set of conditions that promote change, and through assessment, educators meet responsibilities to students and to the public (OAPA, 2001).

The activities involved in assessment of works are expensive, time consuming, stressful and effortful. This is common to professional programmes like architecture, engineering and other allied courses. Apart from this, Rubrics' setting for assessment tasks, marking and grading also demands a lot of skills to gradate achievement levels and produce good outcomes in the student performances. In professional education like architecture, engineering, and other forms of standardization, assessment has the obligatory roles in that it (i) encourages learning, (ii) provides feedback on learning to both the students and the teachers (iii) documents competency and skill development (iv) allows students to be graded or ranked (v) validates certification and licence procedures for professional practice, and (iv) allows benchmarks to be established for standards (Crisp, 2007).

Another scholar emphasized that there are some aspects of teaching that are kept in cages in hopes they will never escape. … an urgent need to share our concerns with our own grading approach, spend time with each other determining the meaning of a C, an A, or discussing what constitutes a 3.5 grade point on a rubric. He also reiterated that issues on grades, grading, and report cards need to be made opened and dialogic, as there is a great need to question assumptions, embracing alternatives, and focusing on the promise of what teaching and learning can be, (Wormelli, 2006) - the pedagogic potentials.

3. Jury Rubrics of assessment in architectural and engineering design process

Since premier days of Bauhaus School and Ecole beaux Arts and even Columbia, the design critique had the triple purpose of informing, judging performance, and screening out sluggards, ne'er-do-wells and trouble makers (Franz, 2003). Although, this essence may have been abused and in many ways had caused bias, fear, intimidation, uncertainty, and mistrust among students, staff, and other stakeholders.

Because of these misappropriation, certain investigations have been made on the difference in grading parameters in selected Nigerian architecture schools and its impact on the competency rating of future professionals was conducted (Alagbe et al., 2015). And most recently, a previous study in the institutions also evaluated the parametric measures of the design workspace adequacy (Aderonmu, Awoyera, Amole, Olofinnade, & Adekeye, 2016).

Also in the engineering design process, assessment rubrics are set tantamount to students' learning and performance status. The rubrics are composed of three elements: (i) a set of criteria that provides an interpretation of the stated objectives (performance, behaviour, quality),a range of different levels of performance between highest and lowest descriptors that specify the performance corresponding to each level, to allow assessors to interpret which level has been met. It identifies and operationalize six levels of performance based on the following generic scoring of scale 0 to 5, where (0) No evidence, (1) Novice, (2) Developing, (3) Proficient, (4) Advanced, and (5) Exemplary. In exemplary level, within the design process, engineering students are expected to demonstrate thorough and penetrating understanding of key parametric concepts; exhibits copious evidence of attainment of skills, while in advanced level (rank 4), student need to show considerable understanding and exhibits substantial evidence of attainment of skills, while in rank 3, proficiency is required in the adequate understanding of key concepts and exhibits adequate evidence of attainment of skills. Rank 2 is set to achieve developing the acquired skills by demonstrating a partial understanding of key concepts and exhibits some evidence of attainment of skills while rank 1-Novice, would be expected to demonstrate a lack of or little understanding of key concepts and exhibits minimal evidence of attainment of skills, while rank 0 would show no evidence of engagement, and students in this category demonstrates no understanding of key concepts; exhibits no evidence of attainment of skills, EDPAR (Engineering Design Portfolio Assessment Rubric).

In any case, the rubrics spelt out clearly the what, when and how of the expectations, objectives and parameter ranking in a lucidly contextual way with meaning within a particular environment and stakeholders involved in the engineering design process.

The ethical Jury activities are conducted in form of design review, jury or critique, which involves lecturers, tutors, and visiting professionals commenting on and assessing students' works in a group dynamics. In most schools of architecture, according to school of architecture art and historic presentation (SAAHP), there is a general believe that design can occur free of distractions and enhanced by unique ideals of dialogue, reflection, and experimentation among students, teachers and other visiting critics. In some cases it has also become, very intimidating, humiliating, and boring experiences. There were evidences that the process is often not conducive at all to any kind of useful learning (Anthony, 1991; Jackson, Dempsey, & McNamara, 2010; Pressman, 1997).

3.1. The major challenges facing jury assessment methods in architecture schools

Design Juries are often considered as debateable issues in most schools of architecture all over the world. Design juries remain as major challenge facing architectural education. In the same vein, some of the most gifted students of architecture simply break down because they never understood the motives and purpose behind the Jury assessment. Many students end up at the juries being frustrated and humiliated. Others cannot see the objectivity in the exercise and grumble on their being subjectively targeted, complaining that jury members simply love to disparage them. According to Ilozor (2006), the achievement of these ideals has been minimal within most architecture schools' studio settings. The reason lies in the differences as a result of pedagogic inclinations, the school emphasis, and the ambiguities of purpose. Pressman (1997), also captured some other value differences in attitudinal disposition of how practicing architects owe their best design rendition to their clients, users, and society (for profits sake) as well as students' allegiance to their instructors' styles and primacy of their grades (for grades sake) in studio works. Anthony (1991), also observed that jurors (faculty and visiting critics), receive little or no formal training on how to conduct design juries and often rely on techniques used by their professors while they were students, even if, the methods are no longer in vogue.

In spite of various challenges that the educational methods of assessment faces, there are reasonable benefits of assessment in higher education, because: (i) it provide information, about the knowledge and skills students have as they enter a course as faculty/teachers design instruction to target the knowledge and skill levels students should have upon finishing a course and better determine the levels of thinking or reasoning appropriate for the course. (ii) Assessment can provide reliable data on student learning and information from student evaluations, therefore faculty members can rely less on the comments that appear on student evaluations as indicators of success in teaching. (iii) Because assessment can make available richer data about the effects of the curriculum or teaching methods, so teachers-assessors can engage in more productive conversations about the status of student achievement and make better decisions about how it might be improved, (iv) Assessment can yield more reliable data about instruction, therefore, it enable the assessors to make reliable decisions about innovations or experimental projects in instruction and share successes more easily, (v) Because assessment can provide evidence that faculty members make a difference in student learning, so assessors can enjoy greater satisfaction in their work as educators (vi) Because assessment can offer a larger view of student needs and accomplishments- faculty members can identify directions for future instructional development and (v) Assessment rests largely in the hands of the faculty, therefore, assessors can become the primary decision-makers in regard to setting learning goals, identifying processes for assessing them, determining whether they have been reached, and recommending future directions. In other words, higher education program assessment experience to determine whether students have acquired the skills, knowledge, and competencies associated with their focuses on assessing student learning program of study.

4. Methodology

The research methodology employed a survey research design strategy; the primary data were sourced by the use of questionnaires, observations, focus group, and oral interviews. The secondary data was sourced from the literature, archives, government reports and records. Also, the sampling frame consisted of the design studios, participants as students and teachers in the selected design studios of four schools namely: Obafemi Awolowo University, Ile-Ife (OAU), Osun State; Ladoke Akintola University of Technology (LAUTECH), Ogbomoso, Oyo State; University of Lagos, Akoka, Lagos and Covenant University, Ota, Ogun State. The unit of analysis was obtained for the teachers and students, design studios of year three (3), four (4) and masters classes (300, 400 or 500 and MSc Classes). A multi-stage stratified purposive sampling technique was adopted. Questionnaire responses were analysed using SPSS version 18 with regression analysis, while content analysis were used for observations, focus group, and oral interviews.

4.1. Surveying undergraduate between 3rd and 5th year and MSc/MTech architecture students in the selected institutions

Student questionnaire were distributed to undergraduate (3–4/5 year) and MSc architecture students in OAU; LAUTECH, Ogbomoso, Oyo State; University of Lagos, Akoka, Lagos and Covenant University, Ota, Ogun State. The studio included students the unit of analysis was obtained for the teachers and students, design studios of year three (3), four (4) and masters classes (300, 400 or 500 and MSc Classes). The data collected from the student questionnaires was analyzed in both a qualitative and quantitative manner. The items used to collect data in the student questionnaires were based on the answers received during the earlier phase of research, which utilized teachers' student's interview.

The key parametric issues identified in questionnaire can be outlined as listed as the Component Loadings for Jury Assessment System: (1) The Jury Review and Format (2) The Jury Purpose, Hierarchy and its Inherent Pedagogies (3) The Jury Objectives and Parameters and (4) The Jury Prospects.

In addition to this, the study addressed the following: (i) Respondents Understanding of Architectural design studio Jury system the metaphorical dialects of design Jury (ii) Discussion preference, (iii) Adherence to programmatic requirements and its impact on jury comments and grades, (iv) Students approach to their design toward final jury (who they want to satisfy), (v) Preference on

grade policy (holistic, criteria based, comparative) (vi) Impact of utilizing impressive presentation techniques on grades (vii) Preference on jury scheduling (viii) Preference on attendance of external juries and (ix) Helpfulness of implemented evaluation techniques.

5. Results, analysis and discussion

Some findings among many others, showed that, for teachers, the sex distribution was 69.4% male, 30.6% female; with highest proportion of female teachers in CU (38.9%). And for students across the selected schools, the percentages of sex distribution were 69.1% male and 30.9% female. The study found significant differences in socio-economic characteristics of students and teachers, personality characteristics of students and teachers in the different dimensions of orientation and perception to design studios. The different levels of significant indices were found for order of Regression factor score 6 for analysis 1 (β = .101, *F*-value = 26.334, d*f* = 2, and significant value = .000), Regression factor score 7 for analysis 1 (β = .091, *F*-value = 18.275, d*f* = 2 and significant value = .000) and Regression factor score 5 for analysis 1 (β = .077, *F*-Value = 13.625, d*f* = 1 and significant value = .000). This study revealed that the four selected schools had performed differently in terms design studio jury practices employed by teachers and students'. And more differently are the perceptions, awareness, potential benefits, rubrics and criterion which served assessment methods of the jurors. The parametric measures evolved in these findings can be used as a valid fundamental basis in the empirical analysis of architectural design research.

5.1. Component loadings of respondents understanding of architectural design studio jury system

The component loadings were obtained from regression analysis, the data is shown in Table 1. The essence of this was to (i) factorise jury system into clearly understandable variable (ii) evaluate the current jury system and extract from these analysis matters that are urgent and need adequate attention (iii) demystify some hidden myths and assumptions by the stakeholders and (iv) set priorities and validate the principles underlying jury assessment systems. The component loadings were stratified into four discrete dimensions.

Table 2 shows the key factors and analysis on the jury assessment system. The model summary for jury system for the four selected schools has four (4) dimensions of stratification, the total Cronbach's Alpha was based on the total Eigen Value (.972(a)/17.907), while the total percentage variance was 51.163.

Across the four schools the average total degree of variance was 51.163%. Based on the respondents' opinion, the emergent needs of jury system are premised on the order of importance: the most significant factors was the Jury review and format (22.154%), next to it was the Jury purpose, hierarchy and its inherent pedagogies (14.9%), the jury objectives and parameters (7.7%), and the jury's prospects (6.3%). The Cronbach's alpha values of these factors were .897, .832, .649 and .565 respectively.

5.2. The jury review and format

The jury review and format activities are scheduled to create awareness for stakeholders' priorities, raising emergent issues, providing useful information for tenets of instructions, planning and processes of jury system. Lessons are drawn from Kuwait University, College of Engineering and Petroleum, Department of Architecture. Table 3 shows the jury review and format in the selected schools. In order to order to be able to finish the jury within a reasonable period of time and effort (Mahgoub, 2010) for students and jury members, there are many formats used in different universities for performing a design jury: (a) the student present his or her project to all jury members and receive their feedback and comments (15–20 minuets/student), (b) Students are divided into two or more groups and each group is reviewed by a different group of jurors (c) students stand by their projects and jury members go around ask them questions and evaluate their work, and (d) the jury is conducted without the attendance of the students with the purpose of evaluating the students work only.

Table 1. Component loadings for jury assessment system in the selected schools

Component loading and variables	Dimension			
	1	2	3	4
More frequently, studio teachers have explained the purpose of jury and its benefits in assessment of students works	.200	−.616	.024	−.043
The jury process is superb and orderly as organized in my school	.189	−.504	.291	.046
In my opinion, jury is a medium of learning	.121	−601	−.095	.123
The jury system is well organized in my school	.687	−.209	−.221	−.014
Jury improves my presentation skills	.764	.010	−.269	.120
While presenting my arch. design studio works, the studio jurors/critics listens to my ideas	.692	−.032	−.305	.024
Jury gives me better understanding of design process	.745	.075	−.118	.122
Jury helps to explore several design options	.714	−.013	.028	.114
Jury elicits useful advice from critics	.803	−.041	−.077	.022
Jurors are very skilful in time management	.656	−.104	−.130	−.078
Jurors displayed good knowledge of moderating, organizing and planning jury	.751	.052	−.435	−.091
Design solutions are always offered by jurors	.588	.198	−.472	.056
Jury as organized in my school makes me to develop more confidence in design ability	.337	.661	.137	.305
Jury presents opportunities for further research in my school	−.107	.482	−.067	.548
It is just a forum for fault finding and humiliation	.525	−.375	.319	.111
It is an avenue to show hierarchy of power between staff and student	.190	.584	.397	.206
Jury improve critical thinking skills	.184	.421	.329	.519
It can be done better between the studio mentor and student only	−.040	−.607	.300	.291
It can be more fruitful if supervisors/mentors are exempted	−.126	−.704	−.052	.270
Jury helps to work better on your own ideas	−.242	−.614	−.207	.318
Jury helps to get feedback from your jurors	−.161	−.613	−.235	.429
Jury is always a time to experience other students' projects	−.054	−.352	−.413	.401
Jury is always a time to experience other students' projects	−.360	−.553	−.194	.263
Jury is to develop and improve my design vocabularies	.448	−.239	.364	.366
Systematic grading from preliminaries through consultation should be added to jury assessments	.610	.225	−.504	−.114
The jurors appeared to have undergone the training process of jury assessment of students work	.660	−.145	.106	−.049
Jury help me to develop more presentation techniques and gain confidence as I discuss my works before others	.477	.433	.275	.305
My jurors often enter into dialogue with me in jury and at times refer me back to my supervisors for improvements	.519	−.215	.453	.059
The jury atmosphere is an intimidating ordeal	.658	−.137	.214	−.066
I observe some mutual respect between student and staff-critics	.453	−.267	.161	−.414
Rational Guidelines and parameters are frequently applied to assess students work during jury	.326	−.315	.390	−.202
Objective parameters are used based on specific factors of each project	.282	−.136	.411	.037
Jury can be very useful in fostering leadership and governance issues	−.140	.420	−.183	.474
Jury can be better done in opened but controlled atmosphere	.154	−.023	.223	−.163
No side effect even if jury is wiped out of architectural design studio assessment	−.050	−.024	.073	.192

Table 2. Key parametric factors and analysis on jury assessment system

Dimension	Factor	Cronbach's alpha	Total eigen value	%variance
1	The jury review and format	.897	7.754	22.154
2	The jury purpose, hierarchy and its inherent pedagogies	.832	5.223	14.923
3	The jury objectives and parameters	.649	2.708	7.738
4	The jury prospects	.565	2.222	6.349
Total		.972[a]	17.907	51.163

[a]Total Cronbach's alpha is based on the total eigen value.

Table 3. The jury review and format in the selected schools

Factor 1	Variables	Factor loading
The jury review and format	The jury system is well organized in my school	.687
	Jury improves my presentation skills	**.764**
	While presenting my design studio works, the studio jurors/ critics listens to my ideas	.692
	Jury gives me better understanding of design process	.745
	Jury helps to explore several design options	.714
	Jury elicits useful advice from critics	**.803**
	Jurors are very skilful in time management	.656
	Jurors displayed good knowledge of moderating, organizing and planning jury	**.751**
	Design solutions are always offered by jurors	.588
	It is just a forum for fault finding and humiliation	.525
	Jury is to develop and improve my design vocabularies	.448
	Systematic grading from preliminaries through consultation should be added to jury assessments	.610
	The jurors appeared to have undergone the training process of jury assessment of students work	.660
	Jury help me to develop more presentation techniques and gain confidence as I discuss my works before others	.477
	My jurors often enter into dialogue with me in jury and at times refer me back to my supervisors for improvements	.519
	The jury atmosphere is an intimidating ordeal	.658
	I observe some mutual respect between student and staff-critics	.453

5.3. The jury procedure

The course instructor should invite at least two (2) design instructors to participate as official jurors who grade students' projects. All department faculty members and guests are welcome to attend but grades are given by the invited design instructors who should attend all presentations. The grades should follow the format of the attached grading sheet.

The jury atmosphere varies and may be a function of the schools philosophy, conceptual schema, vision-mission direction, contextual makeup and other factors, but it is often charged with academic and emotional perplexity.

This extremity is not usually the most conducive for critical thinking and reflective learning. However, reviews in the author's view can be made excellent exercises for metaphorical language

and intelligent improvement of design works amidst critics "who should be facilitators, vision builders, idea molders not destroyer of intents and biased judges". According to interviews conducted among the four selected schools, a UNILAG student (400 levels), he described his experience as a very important part of professional development but his description in a few words was "emotional mental cramps". In LAUTECH, an MTech Architecture students tagged jury as: "Intense and psychiatric experience, you will occasionally feel somewhat estranged into an unknown world as if one was drained, and beat-up, drenched by rain and hurt by a trusted friend in the hot spots of unpleasant jury review".

A final year student in CU also described the heat of jury as a forum where "the presenter is given opportunity to roll with the punches through talking, both to faculty members, peers and other unknown audiences". Through this, you elucidate and express your feelings. You will surely be comforted by the relief that comes from talking, and strengthened by the understanding and support of allies.

The jury system is considered an educational setting where students learn how to communicate their design ideas and defend their views professionally and eloquently. They also practice the use of English language in communicating their design ideas and projects. These are skills required for their professional practice. It is a setting similar to what they expect to confront in their daily professional practice experience. The juror should be able to evaluate this educational aspect and not only the project drawings. Architectural design is both a product and a process, and both aspects need to be evaluated during design education. From all the variables considered (Table 3), a variable "jury elicits useful advice from critics" was selected o evaluation, the responses for this variable is shown in Table 4, and also graphically represented in Figure 1.

From Table 4, the majority 264 (54.9%) of respondents agreed that jury elicits useful advice from critics, while only few 77 (16.1%) disagreed with this view. It follows that, when a lot of the respondents understood jury system from this point of view, more would be willing to participate in the jury assessment but its efficiency has to be increased by strategizing more creative approaches, motivating the participants, and making the review processes stimulating, explicit and well organized.

In this regard, the jurors need to display a good knowledge before the students and assist to mould their thoughts into feasible product of architectural design. Also, jury system according, to the factor loadings with variables .803, .764, and .75 should play roles in eliciting useful advice by feedback results, improve the skills, and impart good knowledge on the participants.

Table 4. Respondents who agreed that "Jury elicits useful advice from critics"

University	Jury elicits useful advice from critics					Total
	Strongly disagree (SD)	Disagree (D)	Rarely disagree (RD)	Agree (A)	Strongly agree (SA)	
UNILAG	1 (.9)	11 (10.0)	57 (51.8)	34 (30.9)	7 (6.4)	110 (100.0)
O.A.U	2 (1.7)	3 (2.6)	38 (33.0)	48 (41.7)	24 (20.9)	115 (100.0)
CU	12 (9.2)	20 (15.4)	23 (17.7)	53 (40.8)	22 (16.9)	130 (100.0)
LAUTECH	4 (3.2)	24 (19.0)	22 (17.5)	71 (56.3)	5 (4.0)	126 (100.0)
Total	19 (4.0)	58 (12.1)	140 (29.1)	206 (42.8)	58 (12.1)	481 (100.0)
	77 (16.1)		140 (29.1)	264 (54.9)		

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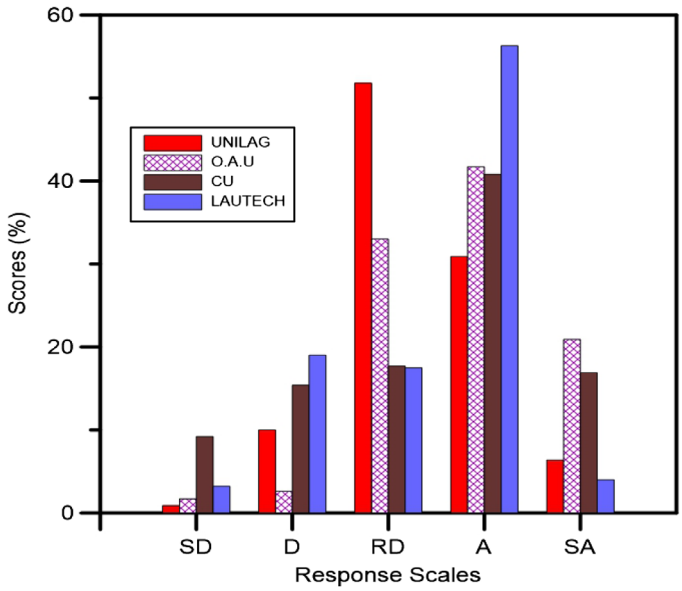
Figure 1. Jury elicits useful advice from critics.



5.4. The jury purpose, hierarchy and its inherent pedagogies

The respondents' across the four schools disclosed their intents under the synthesis of jury's purpose, hierarchy and its inherent pedagogies.

5.5. The jury's purpose

The original purpose of jury assessment was the most ceremonial way of evaluation of architectural design. Jury exists in the legal world to debate and argue a particular case and ascertain a winner or loser, but the system in the architectural design educational system is philosophical. When philosophers meets to argue or debate, the essence is not to choose a winner or loser but to proffer solutions to confronting societal problems, so it is in the jury system of architectural design studio. During jury, one student or a group of students present, and defend their work in front of the jury and get feedback in form of criticism. Criticism could be destructive if not handles in the best practice and at times could be constructive. This format can have variations: it can invite other students as discussants and audience as well as instructors from other studios or different schools or professionals as jury members. Jury format can be accepted as a ritual whose formal characteristics, periodic, constituency, spatiality, choreography and language worked together to make the jury a special collective occasion usually for celebrating the end of a design project (Webster, 2006). Juries are well-organized mediums to carry out both assessment and education of students jointly. Jury is the most performing stage of education where subject (student) and agency (the discipline of architecture – as represented by the critics) actually interact (Webster, 2006).

One of the main characteristics of the design education is that its assessment is not based on formal examinations and architectural design education is similar to the other design educations in the way it is conducted in studios: the evaluation of student attainment, knowledge and skill, is indirect, that is through practice and projects. Because of these reasons the main form of assessment in architectural education is the review or criticisms. From Table 1, among the significant variables, the loading factors (−.616) as disclosed by the respondents was that "more frequently, studio Teachers have explained the purpose of jury and its benefits in assessment of students' works".

5.6. Jury's hierarchy

While in the field of architecture the focus is on the communication types and the power relations between the students and the instructors (jurors), in the field of art and design the focus is more on the use and aim of criteria-based assessment. Among the significant variables as disclosed by the

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Figure 2. Intelligent display of pragmatism and dialogue between jurors and design studio student.

respondents was that "jury is an avenue to show hierarchy of power between design studio jurors/teachers and student". For jury to have a paradigm shift, dialogue is important (American Institute of Architectural Students, 2002) to transact successfully between studio teachers and students alike. From Table 1, another synonym for hierarchy is order, which is also paramount in process and organization of jury system. Also stated in Table 1, variable with factor loading (−.504) that "the jury process is superb and orderly as organized in school". Since architectural design is done in a systematic order, then jury needs to be operated in the same manner. Figure 2 shows an intelligent display of pragmatism and dialogue between jurors and design studio student.

The constructivist style of jury emphasized both hierarchy and dialogue, but the two terms seems to be a par. In a situation like this, the Jurors listen and follow the student with attention while communicating his/her designs intents. In this scenario, the role of the organizers and jurors is premised on intelligence and metaphorical prowess; intelligence does the sifting of relevance from ambiguities.

On the part of organizers, he has to be able to invite a mix of critics who will be able to shift from their exalted positions; from knowledge pot hierarchy to a humble platform of facilitators of events and ideas. He thereby engages the design students (presenter) in absolute dialogues and opinion

Table 5. The jury purpose, hierarchy and its inherent pedagogies

Factor 2	Variables	Factor loading
The jury purpose, hierarchy and its inherent pedagogies	More frequently, studio teachers have explained the purpose of jury and its benefits in assessment of students works	−.616
	The jury process is superb and orderly as organized in my school	−.504
	In my opinion, Jury is a medium of learning	−.601
	Jury as organized in my school makes me to develop more confidence in design ability	.661
	It is an avenue to show hierarchy of power between staff and student	.584
	It can be done better between the studio mentor and student only	−.607
	It can be more fruitful if supervisors/mentors are exempted	−.704
	Jury helps to work better on your own ideas	−.614
	Jury helps to get feedback from your jurors	−.613
	Jury is always a time to experience other students' projects	−.553

sharing during jury. This will allow the students to communicate the intents of the designs and the prospects thereof. A summary of the jury purpose, hierarchy and its inherent pedagogies is presented in Table 5.

In addition, other inherent pedagogic benefits include variables like (1) Jury Helps to work better on my own ideas (2) Jury helps to get feedback from your Jurors (3) Jury is always a time to experience other students' projects (with factor loadings −.614, −.613, −.553 respectively).

5.7. The inherent pedagogies

Pedagogy is the practice of teaching or the study of teaching (LDOCE5); or the study of teaching methods; (OALD6); that is ordered in a particular style. Style is described as a vocabulary and syntax; and syntax expresses the way in which a society feels, responds, thinks, communicates, dreams, and escapes .... Syntax is conditioned by the structure of the world in which we believe in. While Style is an expression of a Culture and its social, philosophical, economical, political, and technical structures (Schwarting, 1984).

There are a lot of inherent but inexhaustible opportunities for learning and teaching styles in architectural design jury assessment system; in the same vein, the review system, as a context for critical analysis of the studio design project, also provides a broad learning opportunity for both students and faculty. Also notable in these inherent styles, is the focus on the ability to use relevant knowledge, skills, and processes for solving ill-defined problems during meaningful tasks. Another key variable factors that distinguishes the jury as practiced in the selected schools from traditional ones, were: (1) jury is a medium of learning (factor loading −.601) and (2) Jury as organized in my school makes me to develop more confidence in design ability (factor loading .661); "because they provide opportunities for students to integrate many kinds of learning" (Dorn, Madeja, & Sabol, 2004).

These key variables emphasized jury as a medium of learning and its organization and setting develops more confidence in design abilities. These notions were further established in focus group interviews conducted among design studio students, it took place immediately after jury presentation in each of the selected schools, it was purposed to capture the fresh essences of their jury experiences. In the four selected schools, they respondents' views are as follows:

In LAUTECH, a member of the focus groups, expressed his jury experience as:

> a realization of a new level on the design nexus plane. I love it, because, my presentation was smooth without interference of the jurors. The jurors accepted my building plan but criticized the site plan. Asides this, it was a generally pleasant experience. Other comment was the bad ventilation that was observed in one wing of the building plan, but the good headroom clearance was observed on the section drawings.

A member of other focus groups in CU stated that:

> the entire project opened me up to a lot of new ideas especially in the aspect of merging lots of disciplines and functions into one. The reason being that I never thought I would be able to design such (especially when I saw the brief). To me personally, jury was a whole new experience, being able to defend my work confidently and also expressed my ideas in words.

Another respondent commented as follows:

> Today, I learnt about proper detailing of building members, especially the roof system, site plan and proper representation of Toilet area (service area) to the satisfaction of its users. All in all, I learnt quite well that one's building design is supposed to satisfy the needs of its users in all areas.

Also, a member of the focus group stated that I was exposed to a lot of methods of doing things. And I had to do a lot of research especially on construction details. My experience during jury taught me that I have to give a lot to my design and my site evaluation. Another member in the same schools reiterated: "this jury taught me to relate functions and spaces of not so related functions and integrate them into a single unit that can eventually be functional to the users".

Asides from these inherent tool and its benefits, the intelligent use of metaphor is another inherent tool that is related to criticism in the architectural design jury system. Its contribution and relevance are numerous among the following but few roles of jury critics.

5.8. The metaphors and dialectic influences of jury critics on students' assessment-performance

For every people, organization and culture, dialect serves as a medium of communication. In arts and architecture, a juror is also known as a critic. The metaphor-in-use, dialects and language of a jury-critic influences the success or failure of any Jury activity. These influences are the denominators of actions and reactions, stimulus and responses of the jury participants. More so, this section highlighted the roles, actions and reactions of jury critics, it stated numerous roles that jurors perform as critics in the jury system.

Attoe (1989) cited R.P. Blackmur that "the critic is likened to a kind of magical surgeon". As the word "magic" means the secret power of appearing to make impossible things happen by saying special words or doing special things. Surgeon is a doctor who is trained to perform medical operations in a hospital, while surgery is the medical treatment of injuries or diseases that involves cutting open the body and often removal or replacing some parts; the branch of medicine connected with this treatment. The simile of this occurrence is also found in an architectural design studio Jury; where a critic is seen as a magical surgeon because he asks intelligent questions on the work done by a designer.

A juror does this through questions that unearth certain truth and revelations defender to develop a kind of defense mechanism in order to make his or her works to be established and acceptable. In the process, a juror/jurist operates like a magical surgeons asking questions which at times demoralize or destabilize the defender or the designer of a work who at times feels himself & his works are rejected, unwanted, dishonored but not so.

The Juror's questions or examination during jury session brings out the errors and blunders committed by the defender or designer, tasking his imagination, place a pressure on his intelligent ability to think creatively, logically and strategically in order to bring out values, ideas, potentials, talents, skills that has not been thought about or discovered but bringing them all to lime light as of a desperate miner in the Gold pit. It also enlightens the designer on how to do it.

At its best, at times stirring up a stormy wind in the jury atmosphere that can bring to birth inventions, innovations and skills that could later be a weapon of authority in the hands of both the juror (teacher or practitioner) and the defender (student), cause a shaking that brings simultaneous balance in co- ordinations - reactions of the cerebrum, cerebellum and medullar oblongata, and does to the drawings as a surgeon, cuts open the body and often removing and replacing some parts, restoring not only by stitching and dressing but by re-designing and re-submission or at times by compulsion going through the jury hall again.

Going by this highlight, a critic often does the design (Architectural) surgery or treatment of injuries or diseases that involves opening the body and removing or replacing. Some of the design errors are exposed and subjected to criticisms to bring out values, ideas leading to reformation, correction and validation.

The peculiar and notable differences between medical surgery and architectural design surgery is that a doctor after cutting and opening of the tissues in the body, he does the removing and replacing of some parts in which has to be stitched back and then the designer wait for healing of the wound for some days. While the architectural studio surgery involves that after the juror has done his surgical operation the real treatment (therapy) is performed by both the juror and the designer.

The juror offers consultation services during this period while the designer will have to go back to the drawing board to correct all the errors on his works. And if he has any question this is done by proper consultation with the juror who has done the cutting and opening of the body, the wounds get the healing after proper rectification of design errors and healing takes its effect accordingly when the conscience both the designer and jurors) are satisfied with the update. The medical is one-sided while the art and architectural surgery is both ways.

Design surgery (philosophical criticism) must not condemn the entire design and morale of the designer; it must not form a concept of winning selfishly for any sentimental logic but must steer wisely to a haven of solutions. This paper envision a closer future where criticism in this regard works as a surgical tool to cut opens the body of the entire design work in order to bring perfection and breath life to the soul of the design works, designers and illuminative understanding of critics themselves.

Infusing on George Saintsbury perception, a *critic* does the work of a wine bibber. In the law court of studio design jury hall or any form of design work presentation, he psycho-socially draw or presses out juices of fruits and vines embedded in the intents of the design or the mind(s) of designer(s) by questioning the designer and the character of his design. This tool bibs out wines of undiluted ideas, inspirations, aspirations, design values and creative- mental delivery that could enhance inventiveness and innovations thereby liable to intoxicating the recipients of the ideas and values which can be translated into any logical forms.

Also sharing from the repertoire of Constance Rourke, a Psycho-philosopher, painted the picture of a critic as dangerously committed agriculturalist or a devoted gardener who had a deeper understanding of the prospects which the manure has on the mind of the designer, he therefore nourish the mind of the designers in a grand style. Naturally as manure spread round the base of a good seed and catalyzes its growth, so is a metaphor in the hand of a skilful design critic, with his metaphorical skill, appetites are wet by rains of critics' experience, and drums are sounded into designers' hearing in a manner that elicits response by the stimuli of the critic unspeakably dancing with melody endlessly. In this Scenario, sudden illumination readily generates crops of ideas, which when well-tended and dressed by the critic, eventually it bears good crops of ideas in multiple folds.

A critic is also an Obstetrician in medical terms sees to the nurturing of a new life to birth. Waldo Frank gave this analogy, and navigating in the bearing of psychology, a juror must be very sensitive to designers' original idea(s) and thinking pattern so as not to deviate from originality potentials that may showcase the novelty and nobility of the works of art.

A critic at every stage of his/her therapy (which may be in consultation manner or instruction during the desk-crit) must be very sensitive, in instructional and teaching style be categorical and professional, because every stage of therapy is crucial, for an iota of misinformation connotes abuse of drug which has criminal tendencies and consequences. So a design critic must observe the code of conduct of academe and practice as prevails in Clinical Sciences. In a way like this, as Obstetrician brings new life to birth so also a Critic must create rooms for new ideas to germinate, grow and bear new fruits devoid of re-inventing the wheel. In this way, a cream of creative and productive critics would emerge raising the hands of every Moses by their Aaron's capacity, allowing every iota of latent potentials to yield creatively in every individual that passes across their tables. An MSc female student communicating her design intents to the jurors is shown in Figure 3.

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Figure 3. Showing an MSc female student communicating her design intents to the jurors.

5.9. The jury objectives and parameters

Sometimes in most schools, the goals and objectives were either not clearly stated by the organizers of the jury or misunderstood by the students. The question remains why students should believe in the design instructors who are-as (Seidel, 1994) highlighted—not clear about their studio's goals or objectives and might change them from the beginning of the studio and during the assessment process. Furthermore, tutors tend to consider teaching practice to be an intuitive process based on subjective viewpoints and personal feelings (Salamah, 1995). The learning, teaching and judgment of architectural design studio (creativity) work inevitably rely on the instructor's subjective understanding of project objectives and parameters; and that of jury assessments. Table 6 shows the jury objectives and parameters. From all the variables considered, a variable "objective parameters are used based on specific factors of each project" was selected for evaluation, the responses for this variable is shown in Table 7, and also graphically represented in Figure 4.

Therefore, according to the respondents view from the four selected schools of architecture, from Table 6, the respondents perceived that the current jury as organized in their schools can be greatly improved by having a shift in paradigm towards two (2) significant variables namely that (i) systematic grading (factor loading −.504) from preliminaries through consultation should be added to jury

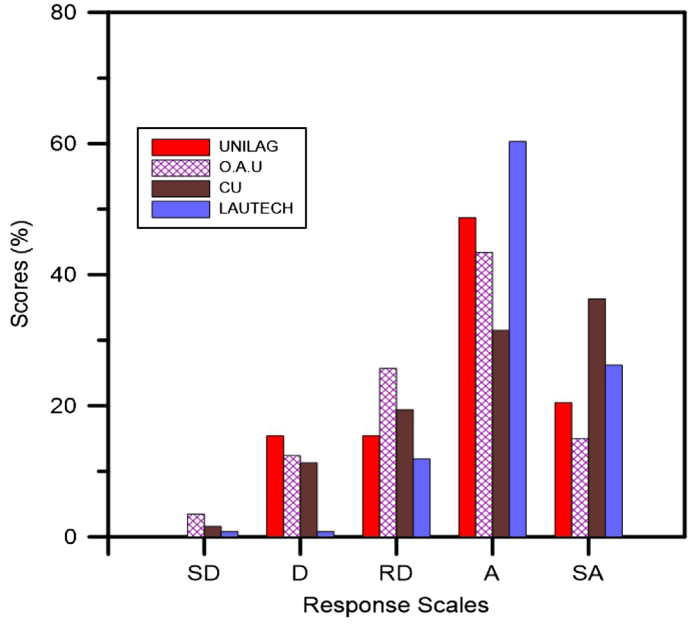

Figure 4. Objective parameters are used based on specific factors of each project.

Table 6. The jury objectives and parameters

Factor 3	Variables	Factor loading
The jury objectives and parameters	Systematic grading from preliminaries through consultation should be added to jury assessments	−.504
	Objective parameters are used based on specific factors of each project	.411

Table 7. Objective parameters are used based on specific factors of each project

University	Objective parameters are used based on specific factors of each project					Total
	Strongly disagree (SD)	Disagree (D)	Rarely disagree (RD)	Agree (A)	Strongly agree (SA)	
UNILAG	0 (.0)	18 (15.4)	18 (15.4)	57 (48.7)	24 (20.5)	117 (100.0)
O.A.U	4 (3.5)	14 (12.4)	29 (25.7)	49 (43.4)	17 (15.0)	113 (100.0)
CU	2 (1.6)	14 (11.3)	24 (19.4)	39 (31.5)	45 (36.3)	124 (100.0)
LAUTECH	1 (0.8)	1 (0.8)	15 (11.9)	76 (60.3)	33 (26.2)	126 (100.0)
Total	7 (1.5)	47 (9.8)	86 (17.9)	221 (46.0)	119 (24.8)	480 (100.0)
	54 (11.3)			340 (70.8)		

assessments (ii) Objective parameters (factor loading .411) were used based on specific factors of each project. But more significant in these schools, according to Table 6 was that "the systematic grading from preliminaries through consultation should be added to jury assessments". The decision varies from school to school and from one instructor to another. For instance, in Covenant University where module system is operated, the objective criteria or parameters were determined based on the four modular groups: the industrial design, urban design, housing and institutional and complex building groups. It is unified based on each group, scope and culture-specificity of the various projects. The studio instructors and jury organizers should culture a psychological atmosphere for jury. This will enable them to be sensitive to the body languages and indications of students' needs. By doing this, they would be able to supply the needed scaffold with their interventions as the need arises per time. Also, an explicit tenet of instructions and well ratified objectives should be set at the beginning of the semester for the architectural design studio courses.

Although, creativity is central to architectural design studio, but should be linked to the specificity of project focus and dimensions. For instance, in an industrial design module, the aspect of functional flow of form and space can be combined as the indices of creativity. When compared to another project like recreational park or leisure centers, the idea of creativity may gradate to that of expressionism and organic forms and space functions. However, this requires deeper understanding of creativity dimensions in the architectural design and how to evaluate them. Instructors should clearly define the creativity criteria for a given project and its relevant applications.

Also, they should set a schema on how to employ it during the design project, and thus discuss it with students to reach a common understanding of the application of the creativity dimensions in the design project. Shared understanding regarding creativity is also required with the jurors. Students should be taught how to generate and proffer innovative architecture solutions (Gero, 1993), explore the innovative aspects of each case study, experiment with possible links between innovative design aspects/solutions and each dimension of the design problem, in line with expert designers' usual practice.

Also, they should experiment with possible links with the ideas that they have obtained from the design negotiations. Tutors should not impose their own ideas on students but introduce them to students and encourage students to explore how the potential solutions can be integrated with the students' design ideas. The tutors' communication and interactive skills and their ability to perceive students' creative abilities and needs are essential (Lindström, 2006). These can be improved through training courses. The school should set up and apply professional conduct mechanisms that regulate the relationship between the tutor and student and provide the democratic environment that is necessary for initiating innovation (Ekvall, 1991).

5.10. The jury hindrances and prospects

During the design jury negotiations, some jurors do not ask an objective question; clarify the nomenclature of the design problem, neither mapped out an algorithm to follow. One student claimed that some jurors would guide students to a certain way of developing the design scheme, but they over flogged the weaknesses than the potentials that were hidden in the students design. They criticized destructively in such a way that students lost interest in the furthering design development and eventually lost hope of becoming an architect or a good designer. Another said (year four-4 student, OAU) that, at times students would not get the message and did not know what their jurors were using and modus operandi for grading and assessment. In CU, a year three (3) further said that "Jurors asked students to explore various approaches without giving sufficient examples and guidance as to where to get information and what to explore if there was any information".

Also in CU, a year four (4) student stated: "The problem is that, during jury, the juror would ask us to change the design concept but when we returned to our module instructors, they refer us back to the brief as contrary to the advice of the jurors. This was done at times without giving a justifiable reason or indicates exactly where the problem exists".

One student (third year in LAUTECH) said: "Tutors might say to you: develop any design scheme and we will help you to develop it further. At the end, you discover that you return to initial ideas as you produced a complicated design scheme that they may eventually deny and call incomprehensible and this gives them an opportunity to reject it or to heavily criticize it destructively". Another student mentioned that: "a juror should build on what the student has already designed and he should not impose any of his self-ambitious ideas".

Jurors need show some design precedents to students and explain the prospects (positive) and consequences (negative) aspects of the project's design. Thus students would have some background information on how professional architects deal with specificities of design projects problem and how they sort it out. One student said that a tutor might suggest a complicated idea to the student, who would not be able to develop it. The student may misinterpret the tutor's suggestion and thus apply it wrongly.

Students said that some tutors did not have a flexible way of thinking. It is hard to convince them of a design solution, as they perceive that it does not comply with their thinking and approach to sorting out the design problem. Thus they are unwilling to help the student. They would rather ask the student to change the design scheme to something that they are willing to negotiate. Some tutors are also unable to discover the innovative aspects in the student's design and thus to invest in developing the design scheme. They insist on their own ideas and when a student represents his innovative ideas to them, they hesitate to accept them. The interviews revealed that students follow their tutor's opinion not because it is convincing and rational but because the tutor has a substantial input into the total grade.

Among the inexhaustible prospects (Table 8) that abides in the jury system were (i) opportunities for further research (factor loading .548) (ii) improvement on critical thinking skills (.519) and (iii) Jury can be very useful in fostering leadership and governance issues (.474).

Table 8. The jury prospects

Factor 4	Variables	Factor loading
The jury prospects	Jury presents opportunities for further research in my school	.548
	Jury improve critical thinking skills	.519
	Jury can be very useful in fostering leadership and governance issues	.474

Comments were also made by the respondent-students on the architectural design jury exercises, and they responded that such activity pave way for further researches, enquiries, critical thinking and fostering of good leadership within the studio team.

6. Conclusion and recommendations

The research does not address many other related variables concerning architectural design studio jury assessment styles. In addition, it is noteworthy that the essential portions of the design jury pedagogic curve were trivialized: the jury objective-parameters (7.7%; Cronbach's alpha value .649), and the jury's prospects (6.3%; Cronbach's alpha value .565). Therefore, urgent attention is needed in these schools to sustain the Jury system. The list of these variables can be very long indeed. But it has been successfully highlighted that a dialogically comprehensive parametric process is fit to proffer pragmatic solutions to address trivialities of the problem and is able to fix in answers to related design issues concerned. In this respect, based on navigation of this study and emergent needs for sustainable system, the following suggestions, variations, and alternatives have been recommended for schools of architecture in Nigeria and other societies with simile culture:

Suggestions to the jurors, architectural educators and allied practitioners

The jury review and format

- The current Jury system is a long and exhausting process that demands reviewing projects in a relatively short period of time. To avert weariness and enthuse all participant stakeholders, it is therefore informative to make review (time) schedule be posted on the notice boards, students' portals, and other forms of internet services a day before the review, indicating time slots for introductory comments and juror introductions, equal presentation times for students, coffee and lunch breaks, and wrap-up discussions at the end of each review; it is also sequential for design jury reviews to start and end on time; in this way, students will be able to attend the full day of the review;
- According to responses from the survey results, since the most common Jury format in the four (4) selected schools were two types of jury sessions; interim jury which is conducted weekly or fortnightly. Reinforcement should be made to compensate students works in terms of rewards - marks or grades credited to students' records) and punishment (marks or grades debited to students' records). This tool stirs up a cause and effect from students' works and their progress within design studio groups and also to enforce feedback mechanism from instructors and other students;
- The final jury is normally at the end of semesters to evaluate the final students' work. So in the selected schools, most design courses do not have "final examinations"; the jury is considered the final examination for design studios. The attendance of the jurors is as important as the attendance of the students.

The jury purpose, hierarchy and its inherent pedagogies

- It is suggested that in all schools of architecture, that, the main purpose of organizing jury needs to be well spelt out for the understanding of all would-be participants as contrary to formality i.e. the Studio mentors, designated jurors within the school of architecture, visiting critics, architectural students in questions and all other participants;

- The brief should be goal-oriented, project-based and its requirements should be aligned with relevant parameters, variables, and factors to be considered in assessment methods. This should also be related to studio project's primacy factors, such as socio-cultural values, structural, design considerations, planning factors, aesthetic values, creative factors, e.tc. Such primacy factors need to be allocated with marks based on each criteria and its significance to a particular project;
- The inherent benefits can be manifested exciting festive, lively, ceremonial moods and atmospheric conditions of jury sessions.

The jury objectives and parameters

- Peer involvement through constructive criticism can add much realism to the parametric objectives of the jury exercise;
- A more comprehensively detailed assessment sheet with understandable "rubrics" needs to be developed scoping the interests of students with the performance expectations from the mentors and jurors. These include a variety of important determinants while grading.

The jury prospects

- The Critiques and Jury methods of assessments should be redefined as pedagogic tools and medium to teach, learn and dialogue in order to bring out the jury prospects and proffer sustainable solutions to design problems among mentors, professional jurors, students, and other participants in attendance. As contrary to judgmental role it serves presently.

Other suggestions

- Instructors need to send jurors a letter well in advance of their visit, thanking them in anticipation for their participation and describing adequately the studio problem in the brief, the day's schedule, and the instructor's expectations as regards the anticipated design studio solutions;
- It is fair and unbiased for all students to be entitled to the same quantity and quality of jury comments; if a juror cannot stay until the end, then another juror must be ready to take his or her place;
- It is also a systematic way by allowing students to turn in all their work the evening before the review (by 6 pm, for example);
- The jurors' questions need to be brief, explicit and short to allow the student to speak as much as possible to and from their design works;
- Fatal design mistakes should be pointed out, its potentials be explored and its prospects be celebrated and commended;
- Jury play good roles in eliciting useful advice by feedback results, improve the skills, and impart good knowledge on the participants.

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