

Students' Perception of the Evaluation System in Architecture Studios

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Abstract—Architecture education was based on apprenticeship models and its nature has not changed much during long period but the Source of changes was its evaluation process and system. It is undeniable that art and architecture education is completely based on transmitting knowledge from instructor to students. In contrast to other majors this transmitting is by iteration and practice and studio masters try to control the design process and improving skills in the form of supervision and criticizing. Also the evaluation will end by giving marks to students' achievements. Therefore the importance of the evaluation and assessment role is obvious and it is not irrelevant to say that if we want to know about the architecture education system, we must first study its assessment procedures. The evolution of these changes in western countries has literate and documented well. However it seems that this procedure has unregarded in Malaysia and there is a severe lack of research and documentation in this area. Malaysia as an under developing and multicultural country which is involved different races and cultures is a proper origin for scrutinizing and understanding the evaluation systems and acceptability amount of current implemented models to keep the evaluation and assessment procedure abreast with needs of different generations, cultures and even genders. This paper attempts to answer the questions of how evaluation and assessments are performed and how students perceive this evaluation system in the context Malaysia. The main advantage of this work is that it contributes in international debate on evaluation model.

Keywords—Architecture, assessment, design studio, learning

I. INTRODUCTION

LEARNING by doing, a process where the design problem took preference over the lecture and became the vehicle by which architecture was taught, was introduced into art and architectural education at the Ecole Nationale et Speciale

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des Beaux-Arts in Paris in the 1890s. Most design studios were run independently by design professors. Base of the Beaux Arts system was design problem, assigned to the student early in the term and carefully developed under close supervision. It began as a sketch problem, and ended with final critique. Submissions at the Ecole were initially reviewed by design tutors alone, behind closed doors. Evaluation criteria were based on the quality of presentation and drawings, ignoring many of the variables that influence architectural design [1]. Students were excluded, and would retrieve their work after the jury had finished. In 1919 Walter Gropius designed and built the Bauhaus School. The teaching methods and jury system employed by Gropius and his associates did not change dramatically from those of the Ecole. Bauhaus was closed down by the Nazis in 1933 but many of its teachers immigrated to North America where they either established new schools, or reformed existing ones according to Bauhaus principles. European tradition has greatly influenced North American architectural education and on their colonists [2]. Today's design studio model which focuses on learning by doing, is based on traditional form of schools of architecture, in which students after taking liberal arts subjects, basic architectural graphics and communication is given an associate degree in architectural technology. After another two years of architectural building subjects he may be given a diploma for bachelor's degree in architectural technology. Another or two years of graduate work an advanced architectural, structural design and professional subjects he may be given a master degree. Most of trained architects have gone through similar types of training programs. The intentions and aspirations of the architects may be the same but the training procedure, criteria and curriculum may differ marginally depending on the schools [2]. However, the gist of the academic and practical training program is similar and the critique is the backbone of different experiences of studio masters. In fact learning process takes place in crit sessions either in those which lead to grading or those that just confined to comments. According to John Dewey, a 20th century American philosopher, criticism is judgment and also Criticism is a very useful tool in the communication of ideas and evaluation of designs. Critique, review and jury are three terms used interchangeably in schools of architecture [3]. In Architecture and Critical Imagination, [4] Wayne Attoe implies that the word criticism derives from a Greek verb *Krinein*, meaning to make distinctions, or to separate but unlike to this meaning, it seen that the meaning of judgment and cavil elicited too. Also The

word jury appears to have negative connotation in linguistic terms as it refers to a group sworn to render true answer on a question or questions officially submitted to them" [5]. These are in contrast to the true purpose of assessment and evaluation of design projects. We ought to investigate about the implemented evaluation systems in architecture studios to find the attributes of idealistic evaluation system and amend the current system base on student's perception of evaluation and assessment to reach to the model which is amenable to more effective learning and teaching system. Although evolution and analysis of the evaluation and assessment system is well documented in Western countries, there is little discourse between different cultures and countries in this context. Non- English native Authors who have worked in this respect are such as *Necdet Teymur* of Turkey, *Doris Kowaltowski* of Brazil, *Ashraf Salama* of Egypt, and *Ahmad Bakarman* and *Abdul Aziz Al Mogren* of Saudi Arabia which relate in different ways to studio practices, communication in studio settings, and evaluating students performance and offer insights toward a better understanding of the learning process and of assessing students' performance thereby deserving some form of investigation [5]. As it implies, despite Malaysia is a fast developing multicultural country, there is no appropriate research in this filed. The first architectural school in Malaysia began in Technical school in Kuala Lumpur in 1925[6]. The school's main objective was to train architectural technical assistants and draftsmen for the Public Works Department Malaysia (JKR) to diploma level. Higher degrees were obtained in further studies in the UK, Australia and New Zealand. The school was subsequently upgraded to Technical College and subsequently to National Institute of Technology (ITK) in 1973. A year later 1974, it was accorded a university status, known as University of Technology Malaysia (UTM). Other new architectural schools followed, Institute of Technology MARA in 1967 (now accorded university status, known as University of Technology Mara, UiTM). The other is University of Science Malaysia (USM) in 1985. Three new architectural schools were established in the late 1990's, The University of Malaya (UM) in 1996, International Islamic University Malaysia (IIUM) in 1967 and University Putra Malaysia (UPM) in 1999. Recently established schools of architecture are the Putra University Malaysia (UPM - since 2000) and the National University of Malaysia (UKM). The Faculty of Built Environment offers four undergraduate professional programs tailored to meet the nation's construction and real estate sectors' manpower needs. The curricula for the schools of architecture were modeled after the British system with the 2 stage, LAM Part I and Part II qualification requirements [6]. All these programs are accredited at the national and international levels. For example, its Bachelor of Science in Architecture has been accredited as Part I by the Board of Architects Malaysia (LAM) while its 2-year Bachelor of Architecture program leads to Part II recognition by the Board. The same programs have also been accredited by the Royal Institute of British Architecture (RIBA, UK), leading to Part I and Part II, accreditation respectively. RIBA's recognition is considered an achievement as it is the first program in Malaysia to be recognized [6]. To probe in evaluation and assessment process

in architecture studios in Malaysia, we worked on National University of Malaysia (UKM) as a case study. By investigation in learning process of second year studio student during one year (two semester) we recorded observations and by distributing questionnaire among students and individual interview with students and instructors we tried to measure acceptability and success of current implemented models. So first the educational value of evaluation and assessment in architecture education will be discussed and then students' preference in different field such as comments and feedbacks, grading policies, jury scheduling, attendance of external reviewers and etc has surveyed. And in this we tried to trace a suitable evaluation method base on student's perception and their preferences.

II. EDUCATIONAL VALUE OF EVALUATION AND ASSESSMENT
Architecture curriculum is based on design studio. The architecture studio creates a context where active learning occurs through group or individual problem-based projects. Challenge of identifying a problem, defining its limits, and developing a creative approach to solve it, aids in the development of reasoned judgment, interpersonal skills, reflection-in-action, and critical reflection on practice which form the basis of architectural education [7]. Evaluation and assessment are part of education process and they are not a distinct part. It has been recognized that assessment has an important impact on learning and that a proper alignment of the learning environments' objectives with assessment can have a significant impact on improving learning [8]. Evaluation is essential part of education because it helps instructors to recognize student's learning level and make decisions for further educating steps and helps students to understand where they are and have a chance revise their designing process based on given comments and in this way they gain more experience in designing. In order to improve education and student learning, evaluation and assessment must be appropriately designed and implemented. On the other hand other important points in assessment of architectural projects are when the critique should add to the process of design and what the best type of critique is for each session, to have best control mechanisms over the design process. Because whenever the critique has imported to the final product of design, designers such as students or architects will show the Defensive behavior or there is no time for any other revisions and no effective influence will achieve. Therefore instructors and students should have an appropriate cognition about purposes, objectives and educational value of evaluation and assessment. During each semester students obliged to work on some small -small well defined projects and one ill defined project as a final project. For each project, depends to projects' scale and objectives a duration will be defined and students should finalize their designs in expected duration. Nine types of evaluation and assessment will apply to students design process such as Individual Critique, Peer Critique, Group Critique, Public Critique, Written Critique, Seminars, Panel Discussion, Formative Critique and Summative Critique [9]. In submission days, students are required to submit certain documentation which may determine by instructors or leave arbitrary. But these are not just the things that are going to be assessed by jurors.

The nature of the skills which students are expected to develop, such as complex skills of professional, are often difficult to assess by traditional methods and some of the forms of assessment which are arguably best designed to assess such skills (invention, solving problem, oral presentation, and portfolios) are often subjective in nature, or suffer from problems of reliability and this may lead to lose its fairness, at least in students believes. It seems that the main educational value of evaluation and giving comments from juries and instructors is enabling students to acquire effective knowledge of solving architectural problems while offering them sufficient framework of guidance [5]. But in a roundtable discussion in 1993 at Harvard University published in GSD News, faculty of architecture, landscape architecture, and urban planning discussed the design jury system. The faculty discussion debated the purpose of the jury, and whom the jury should be directed towards [10]. In these debates, participating faculty members agreed that the purpose of the jury should not be to pass judgment on the students or to evaluate their design work. In essence, they perceived the jury system as an opportunity for developing theoretical discourses for ideas to thrive utilizing the work of students as a catalyst for discussion [10]. While this may seem to be the ideal situation, the roundtable discussion resulted in recognizing the different viewpoints of students and faculty as to how the jury mechanism works. From literature and from Harvard's roundtable discussions two important points can be understood, first: there exists a misunderstanding in terms of how educators and students see the educational value of the jury system, and second: such a misunderstanding inhibits an effective communication during the jury process. In this context, two aspects appear behind the shortcomings of jury practices which impact its intended educational value, the first relates to the jury set-up itself while the second concerns itself with the juror attitudes [5]. Anthony, 1991; Boyer and Mitgang, 1996; Sara, 2004; and Wilkins, 2000 all argue that the physical seating arrangements of the jury indicates that the students work is on trial as they often present before rows of jurors. Such a setting as indicated by Boyer and Mitgang (1996) encourages the view of jurors as attackers and students as defenders, and this in itself can bring out the worst in both jurors and students where, as Sara (2004) states, a defensive attitude tends to lead to further attacks. These two aspects are coupled with the subjectivity inherited in any judgmental process and in the absence of clear measurements for evaluating students' performance. Therefore, it is not surprising that the current established jury practice is not as valuable as educators would like to think. [5]

III. SURVEYING SECONDD YEAR ARCHITECTURE STUDENTS IN NATIONAL UNIVARSIY MALAYSIA

Student questionnaire were distributed to second year architecture students in UKM .the studio included 23 students. 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 issues identified in questionnaire can be outlined as listed below:

- Discussion preference (students prefer a dialogic feedback or just prefer to get marks)
- Adherence to programmatic requirements and its impact on jury comments and grades
- Students approach to their design toward final jury (who they want to satisfy)
- Preference on grade policy (holistic, criteria based, comparative)
- Impact of utilizing impressive presentation techniques on grades
- Preference on jury scheduling
- Preference on attendance of external juries
- Helpfulness of implemented evaluation techniques

IV. RESULTS AND DISCUSSION

Students were asked to rate their preference for the six evaluation techniques(one to one evaluation, studio pin ups, peer evaluation in verbal form, self evaluation and one to one desk critique) base on their helpfulness. Students ranked these evaluation techniques from one (most effective) to six (least effective). Figure1 indicates students ranking of evaluation methods in order of students preference. The lower mean scores indicate higher preference.

Evaluation techniques in order of students preference base on helpfulness	Average score (rounded to the nearest hundredth)
One to one evaluation	1.7
One to one desk critique	2.4
Written evaluation (professor)	3.6
Peer evaluation (verbal)	3.6
Studio pin ups (instructor and student)	4.5
Self evaluation	6.4

Fig. 1 Students preference base on helpfulness of evaluation techniques

Surveying student preference about attendance of outsiders in jury days shown that they prefer the involvement of external that jury system would be a part of their learning process if they have chance to attend in jury sessions. They said externals presence and their comments are effective for their future designing because they can understand different approaches, perspectives to their projects. In addition they said that they prefer the involvement of at least one of studio members. They mentioned externals come to juries with different agenda and may not know much about what the target and criteria of the project is about and this may lead to expect beyond the scope of their project and less mark to them. They emphasized to have a chance to defend their project and ideas after negative comments (92%). Conducting juries behind closed doors still prevails in many universities in some countries. [11][5] and the typical claim by faculty or department members is that it is a time consuming process—discussing students' projects individually due to the large student population[5]. It is completely unfair case, when only a sample of students will be allowed to discuss and defend their projects but others will not. To solve this problem they manage the time by dividing students into smaller groups and each group of students will present in front of one or two external examiner while one of studio lecturer or teachers assistant is among audience. Students were asked about their design approach 26 Percent believed studio master style and interest integrating into their own understandings and interpretation of the design problem, their concept and nature

juries and examiners in jury day (92%) and all of them underlined on their own presence in jury day. They believe of project is driver for developing their design ideas. 17 percent believed style of studio leader is the most important thing to them and 62 percent of students chosen their own idea and decision making as a major requirement for developing their design process. As grading policy three models has introduced to students which they had experience before. Holistic model on the overall project, criteria based model as an announced itemized grading and comparative model which is based on ranking students projects 15 percent of students chose holistic model 77 percent chose criteria based model and just 8 percent chose comparative system. They mentioned criteria based model will help them to increase their grades. It is fairer than other policies because different tasks and criteria and division of mark leads to give marks base on abilities and progress. Students deserve to know which of their works and under 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. Majority of students believe that the adherence to programmatic requirements either that which is delivered to them as part of the project outline requirements, or that which is developed during the studio process has some type of impact on jurors and the grades 43 % high impact, 13 % average impact, and 39% low impacts.

Discussion Preference	student prefer dialogue feedback and defend their project	92 %
	student prefer just to receive the final project grade without discussion	8 %
Jury Composition	student prefer involving studio instructors and leaders only	8 %
	student prefer involving external examiners as part of the jury	92 %
Impact of adherence to programmatic requirements	Adherence to programmatic requirements has high impact on juries and grades	43 %
	Adherence to programmatic requirements has low impact on juries and grades	39 %
	Adherence to programmatic requirements has average impact on juries and grades	13 %
	Adherence to programmatic requirements has no impact on juries and grades	4 %
Approaching design toward the final jury	student approach the design from the perspective of the instructors and the studio leader	17 %
	student approach the design based on their understanding and thinking of the nature of project	62 %
	student approach the design based on the perspective of the jury leader and their understanding	26 %
Grading policy preference	student prefer holistic grading on the overall project	15 %
	student prefer criteria based grading	77 %
	student prefer comparative grading	8 %
Impact of impressive presentation skills	student believe that utilizing impressive presentation techniques has strong impact on the final grades, irrespective to design concepts and ideas involvement	81 %
	student believe that utilizing impressive presentation techniques has no impact on the final grades	19 %

Fig. 2 Summary of students' responses to key issue on evaluation process in National University Malaysia

On the other hand 81 percent of students believe that utilizing impressive presentation and graphical skills has strong impact on final grades. They also mentioned that these effective parameters on grades and marks are irrespective to design process, concept and idea development. Students were asked to choose what they experience in jury days and most of them mentioned that improving presentation skills (oral or graphical), learning how to criticize a project are the important thing that they are trying to learn and improve it. They believed that have a chance to talk in public will learn them to how communicate effectively and conquest stress from ambient noise and rows of jurors in front. They also asked to separate the submission day and jury day from each other. They said that when these two are in one they because of many knights that they are awake they are very tired and they have no time to refresh and prepare themselves to present appropriately. Leaving one or two day after submission day for preparation to present in public jury will be more useful. Investigation in obtained data from Malaysian students compare with done survey in 2010 in Egypt by Ashraf Salama shows difference and similarities in student's preference in some contexts. Their preference in attending in discussion and

have a dialogic feedback is same. But the satisfaction amount and preference level of students in Malaysia is a little more than Egypt countries in jury composition. They are more eager to invite external examiners to attend in jury days. Also they make more risk in their design process and they try to develop their own ideas and their own understandings base on nature of the project under supervision of the studio leader and not just following their instructor's ideas and perspectives. On the other hand criteria based assessment model has more validity among Malaysian students. Malaysian students (preference amount is 77% and Egypt students 59%) figure 3. These differences reveal that although the overall educational system has borrowed or influenced from European models [5] but it has different impact on students in different region and countries. Assessment should support students learning and students approach to learning is from their own past experiences, soci-cultural positions and their own perception of their social world and their aspirations [12]. these factors shape each student unique learning needs and subsequently different assessment needs. So each country should modify the borrowed model through the years to change its characteristics suitable for each generation and countries.

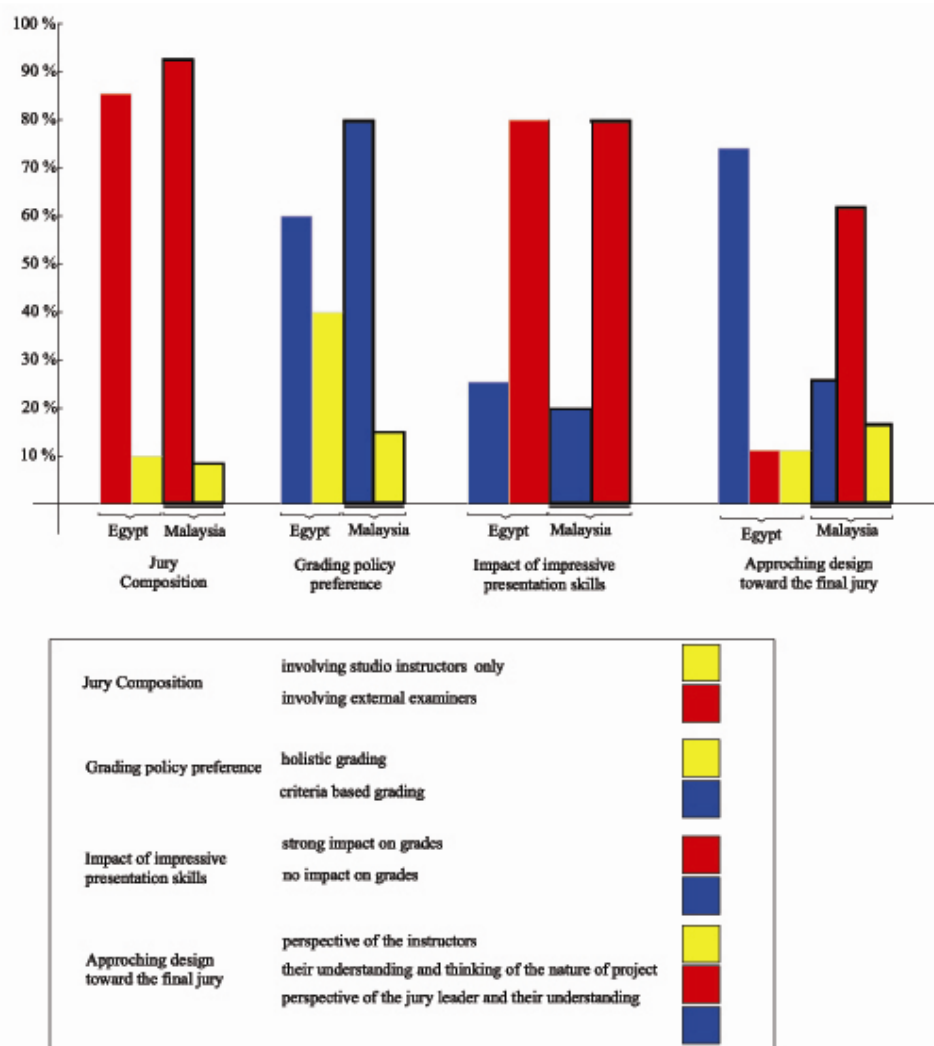


Fig. 3 Comparative chart - Egyptian and Malaysian student's preference for evaluation process

Figure.3 reveals that students' expectation for changes is in same context. Assessment model and grading policies are unclear and undefined to them. They are not satisfied enough with existing models and prefer to change it. Part of these tendencies to make changes in current models is root in misknowning about target and criteria. If universities make explicit overtures towards evaluation, assessment and reporting then students will know about the rules and their criteria that they should abide by.

Author believes that classifying jurors expectations and assimilating evaluation and assessment criteria among jurors and apply it to all students in a same studio can solve some problems like worries about fairness ad subjectivity of evaluating and reporting models in art and architecture studios. This claim is completely base on three main traits of authentic evaluation model which is reliability, practicality and validity [8].In this way the comments will not be spontaneous rather aligned with learning objectives. This can avoid excessive emphasis on the technical abilities in final jury days.

V. CONCLUSION

Learning process in studio based fields are quiet different with other majors. All the learning and teaching process is taking place in the form of evaluation and assessment. And little by little students will learn to evaluate their own project and others. Till evaluation process remains subjective and spontaneous, the main effective factor will be the jurors' perspectives and students as an important part of learning process remains unregarded. Students and their perceptions of evaluation and assessment process can be an appropriate base for changes and improvement of current implemented models. Since most of the universities evaluation around the world has similarities and based on European style, and they are different in their niche, it needs to be revised after years and be upgraded base on new generations' needs.Discussion among different architecture faculties and their students' perception about evaluation and assessment models can prepare good stage to study about new effective factors and elements like gender, culture, background and talent. In this way we can understand whether we need to trace different evaluation and assessment model base on mentioned factors or

we have to design one standard model for whole architecture faculties. This paper addressed students' perception of evaluation process and techniques in National University Malaysia to investigate student's preferences and concerning to evaluate the existing model and by comparing it to another done survey (Egypt) tries to attend in a discussion which can lead to improvement of architecture educating system. This would be first step of such investigation in Malaysia.

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