Developing Sustainable Architecture Education Approaches in Malaysia: A Case Study of Critiques Session in 2nd Year Design Studio of Architecture Department, National University of Malaysia (UKM)

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Abstract:- Limited natural sources and the destructive effects on next generations’ portion attracted the attention of all sciences and different professional majors to find how to generate new sources of energy that they called Sustainable. Architecture as a linked field to other knowledge and sciences was not excepted and like past periods of history, tried to find best solutions and appropriate responses. Today, the definition of sustainable and the domain of it have developed and it is known in vast meanings and categories. Education is one of these categories that it has to be containing the word, sustainable. Sustainable education as a first stage of attitude and effect on future can play an important role. Sustainable Architectural Education and try to trace methods of sustainable architectural education is the target of this paper.

Keywords:- Sustainable Architecture Education, Critique Session, Malaysian students;

1 Introduction
Education is completely linked by spiritual and mental aspects and has direct effect on thoughts and ideas; even it can make a pattern and line behavior for humans’ life. Indeed if educating system be able to has a positive impact on its’ inputs, then it can import its influence to the whole society by its outputs which their number is not less. Especially in art and architecture this influence would be multiple and multilateral, because students are the future designers and peoples’ life will be influenced by them. So we ought to pay more attention to education phenomenon.

The tutorial system in design studios is same as master-apprentice and design studio education is reflected in homework revision practice. Students learn during a communication between students and teachers and also between students. By this way each student will have a chance to express his/her own perceptions and ideas and make a dialogue with experts (teacher) and peers and expose him/her self to their judgments.

During the academic period that students of architecture will pass some studio classes for each semester and they have to done some projects that starts with some small-small well defined projects in first semesters and one ill-defined project for last semesters.

In all design studios students learn in making communication with the teacher and other students. Students work on their drafting table individually and the teacher walks among the tables and checks their design process. Students will experience two types of critic sessions, one desk crits and the other juries. In first semesters that students doesn’t have enough knowledge and experience for managing the projects given to them; the teacher will give them some different projects during the semester that arranged from easy to hard. And students will pass many desk crits sessions before each final presentation on each project before starting the other one. During these crit sessions students learn which decisions they made was wrong and which was true and also they will prepare to make a self crit before presenting their projects to their teachers and juries.
So critiques in the studio help students develop their own critical faculties by instilling the process of reflecting and reacting to design intentions, which lead to their design decisions, and then reacting to the consequences of each action.

According to John Dewey, a 20th century American philosopher, criticism is judgment and Criticism is a very useful tool in the communication of ideas and evaluation of designs (Dewey, 1934). In Architecture and Critical Imagination, 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 (Attoe, 1978). From Ducasse’s opinion the evaluation of good and bad aspect of any phenomenon can be a better perceive from the origin of the word for criticism. He also believes that the word criticism can be use for any analysis and description of text, specialties, and recourses, historical or artistic concepts. By this definition the critic will be a person who uses his/her knowledge, awareness, education and interest’s to give a critical analyze and description for artistic results so the critic must have a comprehensive knowledge about what he criticizes. Nevertheless we can see much different type of critics about same subject from different expert critics. This shows that personal criterion and unique perceptions affect on critics’ manner. For example John Ruskin’s criterion in evaluation of architecture derives from this personal belief that most important part of architecture is ornament or Bruno zevi believes that creation of space is more important than form or function. Thus it is very important to choose a suitable style toward the target of the criticism to prevent of converting criticism to threatening and intimidating tool and making defensive behavior. Collins implies that each student of architecture have to know that the dialogues between he/she with the teachers about design process is just about some special part of the process and they have to learn to do this by him/her self because there is no difference between others criticize and what he does by his/her own.

Based on aforesaid issues this paper analyses implemented methods in architecture studio’s crit sessions, then by investigating student’s feelings on current conducted ways in studios in Malaysia and its accommodation and consonant on this multicultural country we will try to give some suggestions to improve the existing system and reach the sustainable architecture education.

2 Classification of Critic Styles in Architecture Education
Design studio is the core of architecture education and the architecture curriculum is based on design studio. In this space, students spend much of their working lives. The most important points in architecture projects are when the critique should add to the process of design and what type of critique is best for each session, to have best control mechanisms over the design process. Different types of critique have defined in nine categories which we try to give a definition for each. (Utaberta et.al.2010)
1) Individual critique, 2) Formative critique, 3) Summative critique, 4) Peer critique, 5) Group critique (Expert critique), 6) Public critique, 7) Seminars, 8) Written critique, 9) Panel discussion

2.1 Individual Critique
The desk critique involves an active twenty to thirty minute one on- one dialogue between the student and studio instructor which acts as an often daily or twice weekly form of critical feedback on both the student’s process and product surrounding the design problem. During the desk critique, the studio instructor reviews the student's progress in solving the design problem by reviewing the student’s preliminary sketches, two and three dimensional drawings, detail drawings, and physical study models. Often these products are required by the instructor; sometimes the choice of the appropriate representation of the solution is left up to the student depending on their level of skill and knowledge. The studio instructor suggests particular revisions in the design that he or she feels will better solve a particular aspect of the problem. Following the desk crit, the student is expected to more fully explore and test these options and suggestions by revisiting his or her solution. The studio instructor will then review the outcome of the student’s revised solution suggesting further changes and refinements. This process of revisiting and revising alternative design solutions is referred as design iteration. Students may produce dozens of design iterations before the final design solution is arrived at.

2.2 Formative crits
Crits which usually take place at some interim stage during a project/module before work is submitted for summative assessment. The interim or midterm crit is often seen as a warm-up to the 'final crit' where students present their best solution to a small jury. This is the most common form of crit giving
students feedback which can allow them to learn to critically evaluate and move forward with their work. It will stop students taking more care to grades.

2.3 Summative crits: (final crits)
Critique sessions where a mark or grade is given for the work. Researches shows that students often find these crits frustrating as they are not able to act on any feedback given in order to improve the project art/design work. Tutors state that the crit is to teach students how to evaluate and reflect on their work and develop their own critical judgment, not be told what is wrong or right. The purpose of the crit needs to be made clear to students.

2.4 Peer crits
The pin-up involves a form of peer review in which the student formally presents his or her work to the studio class and the instructor. The student will restate the problem, outline the issues being addressed to solve the problem, present their solution or alternative solutions, and describe the process by which they arrived at a tentative solution. Once the student has completed his or her presentation, the work is open for discussion and critique by the instructor and the class. These crits run by the students group with the tutor acting as a facilitator. Usually the student group is divided into smaller groups and the group critiques the work of those in their own group or those in another group. Students need to be given agreed criteria to critique against. The tutor as facilitator feeds into the discussion where there may be questions or queries.

2.5 Group crits (Expert crits)
These are the most common form of crit sessions, where a group of students take part in a critique, run by one or more tutors. These can range in time from a series of short half hour session with a small group of students and tutor to an all day session for a large cohort of students and tutors. Usually students will present their work in front of their tutors and peers and receive feedback which can be from tutors only. These crits are usually tutor led. Students can see that teachers have variety of perspectives and can have apparently contradictory positions and show disagreement between teachers in crits. This is important since this shows there is not just one true way.

2.6 Public critique
Where an invited professional from industry or other department is part of the crit panel. Students can give external experiences from external perspective and feedback.

2.7 Seminars
These types of crit sessions usually take place around a table in a non-hierarchy situation and this will lead to more participation from shy students and quieter members.

2.8 Written critique
The criteria for feedback comments need to be discussed before this activity take place. This type makes chance to give more explanation on each comment and also makes it easier to think about feedbacks. This can be use in peer’s crit and they will give their idea more honest when they are one in face to face situation. All comments can only be accessed by the individual student and tutor.

2.9 Panel discussion
The panel is employed by discussing the projects which are selected randomly or intentionally by the instructors without knowing which student it belongs to. These discussions, which are carried out interactively in a participatory atmosphere, are effective mediums of learning. This format provides feedback to the students indirectly, and avoids the critic to be taken personally. It is preferred at the first stages of the design process in the upper levels of education, which then leaves its place to formal jury. However, the function of this type of review is specifically important in the beginning of design education since the objective of design studio for beginning students is not limited with experiencing the design, but also providing basic terminology and notions of design. It is necessary to note that panel criticism also provide instructors to follow the general development of the studio, success or weakness of the design problems that are formulated by faculty (Eniz 2009).

3 The Evaluation of implemented methods in Design studios
To investigate in architecture design studios and find the success and satisfaction of these implemented universal method models on students, we chose Malaysia as a case study and UKM (University Kebangsaan Malaysia) to distribute questionnaire among students.
The questionnaire used for this research covered topics including; the purpose, educational goals, effectiveness, and students’ reactions to both desk crits and juries. Also asked were questions relating directly towards the design jury including: a framework for criticism, past successful and unsuccessful experiences, explanation of the Purpose of a jury to the class, whom the jury is directed towards, student’s participation in juries and changes for improvement. This was achieved in the student questionnaire by asking questions posed a scale of point between the end points of a positive/negative continuum and by asking open-ended questions, which allowed the students the respond in their own words.

Students were asked how frequently the purpose of a design jury is discussed in architecture studios, and the results are illustrated in Figure 1. More than sixty percent responded by stating that only sometimes in design studios the instructors discusses with the class the purpose of a design jury. Thirty-one percent of all students responded that, in architecture studio they have taken at UKM the instructor has discussed the purpose of a design jury.

The result shows that there is not enough communication between instructors and students in studios about the purpose of design juries. This may affect what type of learning experience both the teachers and students think they are owed in a jury situation. This lack of communication may result in juries that are not effective as they could be, if a misunderstanding is occurring between what students and instructors would like to gain from the experience.

The view of students surveyed as to whether their design instructors use a structure for giving criticism during design juries is illustrated in Figure 2.

Thirty-four percent of the students feel that jurors do use a structure for giving criticism to students. Sixty percent of students responded that jurors only sometimes do they feel jurors utilize a structure for the criticism they receive during juries.

While four percent of all students responded that they did not think jurors follow a certain structure for giving criticism. Some instructors in architecture design studios use an evaluation sheet to grade a project after a jury. These evaluation sheets often include a list of objectives the student should have completed while working on a project. The evaluation sheet which is using by some instructors is the named structure by students. these evaluation sheets includes the objectives, the students have completed while working on project while Instructors usually give spontaneous verbal criticism during a jury situation that differs for each project, based upon what issues each project may present to be discussed.

Students were asked, who should benefit from a jury and who do you think benefits from the juries in current system.

Surprisingly the Comparison between student’s answers to these two questions shows that there exists an inconsistency Figure.3.
The inconsistency may imply that students think juries, as a learning experience may not be as effective as they have the potential to be. Students' responses indicated both the student presenting a project and the others students in the studio observing the jury should benefit from the experience (48%), in comparison, only eighteen (21%) percent of students think the above mentioned students are benefiting from the experience Figure 3. The responses for who should benefit from a jury are concentrated to the students. In comparison, the responses to whom students think benefits from the way juries are currently conducted were widely distributed among all of the choices. Again, this inconsistency may imply that juries, as a learning experience, may not be as effective as they have the potential to be.

The inconsistency of who think should and does benefit from the way juries are currently conducted may occur because there is a lack of consistency in the way juries are conducted in different studios. Students surveyed were given thirteen choices listed as goals of desk crits and eighteen choices as goals of juries. The given choices were acquired from responses given during instructor interviews. Students were asked to agree or disagree if they thought the given choices are goals of desk crits. The students responded on a scale of one to five. One on the scale represented the student strongly disagreed with the option as a goal of a desk crit. Five on the scale represented the students strongly agreed that the option was a goal of a desk crit. For each option, the responses of four and five were calculated because they were interpreted. 

![Graph showing percentages of who agree the following items are goals of desk crits](image)

Fig. 4: Percentages of who agree the following items are goals of desk crits

The most important goals of juries according to students directly relates to what they believe they can learn from the project they are presenting. Improving presentation skills and improving design knowledge are the proof of this claim. They think juries should teach them to defend their design ideas by responding to the criticism are the proof of this claim. They think juries should teach them to defend their design ideas by responding to the given criticism, improve presentation skills, learning about specific parts of their project that worked and parts that didn’t, learning from other students’ projects, and learning more design knowledge and how they can apply it to future designs. These results are similar to Kathryn Anthony’s findings that imply, “Students stress that juries should provide an opportunity to learn how well they solved a design problem and how they can improve their design work in the future. Learning from the jury is a key goal” (Anthony1991). However, rating lower as goals for design juries than some other choices according to students shows that the communication, in juries as they are currently conducted revolve around evaluating how well a student solved the problem by producing a finished product. For instance the rated, improve critical thinking, listen to feedback given, times for jurors to convey their knowledge lower than giving marks.
Comparing the students result with instructors indicates that both faculty and students view desk crits as more effective learning tool than juries. And positive crits is more preferred way to students but most of the times the instructors just lay on negative comments and the remained problems which need to be solved in further steps of design process. If students be aware of their instructor’s opinions and know how they analyze their project and what they expect them, they can more easily handle the project and will never afraid of negative comments. Because students may react confused, disappointed or frustrated after receiving any type of crits especially negative comments.

Psychologically, all the outside factors will influence on students reactions and their design process. Getting disappointed or getting confident in personal design process, getting confused or inspired or even getting nervous are completely depend on the background and different cultures. Also these reactions may occur because students are struggling to solve a design problem and these can just be reduced by teacher’s good actions. Beside this the comparison of student’s feelings in desk crit and juries are shown in Figure 6. It illustrates that students feel better during juries and they will get more ready to try new things.

The attendance of more instructors in juries is a positive point for them to have variety type of ideas and comments and finally more inspired and this leads to get less confused and disappointed and more encourage during the juries.

The amount of being appreciative also is more than crit sessions. Juries more frequently than desk
crits make students react nervous and defensive of ideas. Students may react in these ways because of the physical separation between the student presenting and the rest of the class. This physical geography of a student and his/her work being on display may cause a student to become nervous and defensive of his/her ideas.

According to students and teachers experience in design studios and their feelings and feedbacks here, we mention some specific aspect or characteristic that made the jury a good learning experience for students. (Meyer 2003)

1. Juries are good when the critique is both positive and negative and to the point. If it is all negative the student will get discouraged and zone out. If it all positive, the student will think their work needs no improvement.

2. The best jury would have to be in the situation of a small class. This is for two reasons: people do not get bored and stop paying attention, and you normally feel better about presenting to these people. With these in mind a jury normally works out much better.

3. The ones in which questions asked allow me to find errors or shortcomings in my design on my own.

4. Any critique that is full of constructive criticism balanced with encouragement. The balance and delivery is what is important.

5. Both positive and negatives highlighted plus future options for improvement.

These results may be interpreted as individual components that constitute what makes good jury experience. These components include: criticism that is balanced between discussing positive and negative aspects of the student’s work; a small class; specific comments on how the student can improve the project; and a variety of jurors to allow for differing viewpoints in the feedback given to a student.

4 Conclusions
Research among students indicates that the most successful design studios are those where traditional power relationships are broken down. These are studios where the students become actively involved in the process, and where they have the opportunity to discuss their work with jurors and with each other, all within an environment of mutual respect and interest.

Well designed assessment leads to clear expectations and provide opportunities for students to self-monitor and practice and receive feedbacks. If a structure and consistency were applied to the criticism they receive, students would be better prepared to give and receive criticism. If teachers have a focus just on the work, the students are disappointed because the discussion doesn’t seem to have much meat, and if you have a discussion just about the general societal issues or design theory, they feel their efforts have been neglected.

Comparison of results of this investigation with same done surveys in different countries shows that variation of the feelings and effects of these implemented methods are approximately same in different countries. This shows we can check the implemented methods with authentic criteria which could be satisfy students with different cultures and back grounds, different talent and even different learning style. Because in authentic assessment method we do not focus on the factual knowledge as end it. Rather, we focus on the ability to use relevant knowledge, skills, and process for solving open ended problems.

References:
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