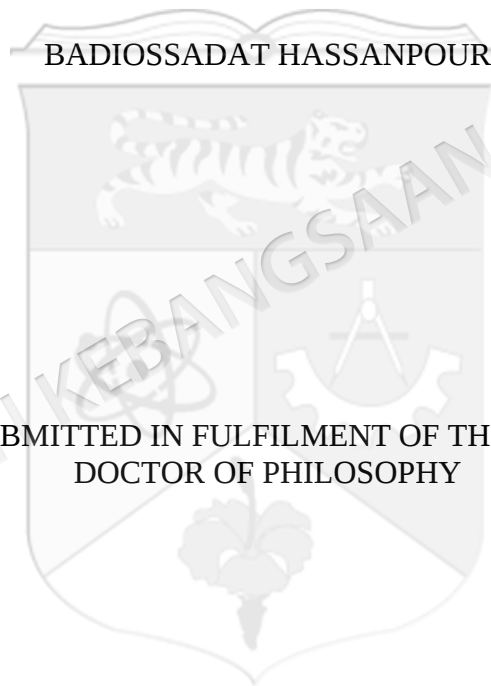


RECONSTRUCTING A PEDAGOGICAL FRAMEWORK FOR CRITIQUE
SESSIONS IN SECOND YEAR ARCHITECTURE DESIGN STUDIO
UNIVERSITI KEBANGSAAN MALAYSIA



THESIS SUBMITTED IN FULFILMENT OF THE DEGREE OF
DOCTOR OF PHILOSOPHY

FACULTY OF ENGINEERING AND BUILT ENVIROMENT
UNIVERSITI KEBANGSAAN MALAYSIA
BANGI

2013

PEMBINAAN SEMULA KERANGKA KERJA PEDAGOGI KE ATAS SESI
KRITIKAN DALAM STUDIO REKABENTUK SENIBINA TAHUN DUA
UNIVERSITI KEBANGSAAN MALAYSIA

BADIOSSADAT HASSANPOUR

TESIS YANG DIKEMUKAKAN UNTUK MEMPEROLEH IJAZAH
DOKTOR FALSAFAH

FAKULTI KEJURUTERAAN DAN ALAM BINA
UNIVERSITI KEBANGSAAN MALAYSIA
BANGI

2013

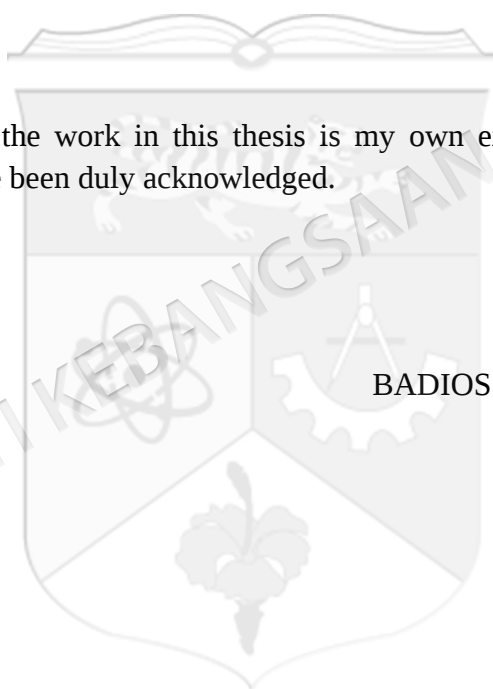
DECLARATION

I hereby declare that the work in this thesis is my own except for quotations and summaries which have been duly acknowledged.

4 January 2013

BADIOSSADAT HASSANPOUR

P53251



ACKNOWLEDGMENTS

Foremost, I would like to thank God. Without Him I am nothing. I praise Him for allowing me to go through this journey, which has been the most challenging activity of 29 years of my life, and yet at the same time contributed to my extreme growth spiritually, emotionally, and physically. He has shaped who I am today.

My first debt of gratitude must go to my supervisor, Associate Prof. Dr. Nangkula Utaberta. He patiently provided the unflagging encouragement, vision and advise necessary. I appreciate all his contributions of time, ideas, and funding to make my Ph.D. experience productive. I could not have imagined having a better advisor and mentor.

Also, I would like to express my high appreciation to Dr. Ar. Mastor Surat for advice and comments on particular aspects of the thesis.

I want to give my heartfelt thanks to my loving husband, Reza Sirjani, who was also working on his Ph.D at the same time and shown me unconditional love.

I wish to thank my parents, Dr. Seyed Ahmad Hassanpour and Fatemeh Darvishi and my sisters Bahareh and Bahereh. Their love provided my inspiration and was my driving force. I owe them everything and wish I could show them just how much I love and appreciate them. I also want to thank to my in-laws for their unconditional support and praying for my husband and I during this time.

This dissertation dedicated to “REZA” for supporting me emotionally, cheering me on, and making sacrifices that went above and beyond what I expected.

ABSTRACT

Design studio and critique sessions have been central to architectural education. Students expose themselves to critique and evaluation in each session and in this way, by gaining experience, they try to upgrade their problem-solving skills. Unfortunately, despite the considerable importance of criticism as a very useful tool for communication of ideas and evaluation of designs, few studies have been conducted and reported in literature and it has not reached its full potential in architecture education. The main objective of this thesis is to evaluate, reconstruct and develop the idea of critique sessions as pedagogical in architecture education along with instructors' and students' expectations within the framework of action research. The architecture department of Universiti Kebangsaan Malaysia and second-year design studio students have been selected as critical stage in architecture education for this study. Generally, evaluation embraces qualitative meaning, therefore 46 students have chosen to be observed, studied and analysed as case studies for four semesters. This thesis uses a two-step approach. The first step explores studio masters' intentions, expectations and manner beside architecture students' perceptions of critique sessions. Then, by comparing findings and combining the qualitative and quantitative data collected, the reality of design studios and crit sessions will be traced. The second step is recommendations and the implications of suggestions to the studio. The data analyses have shown that students' and tutors' perceptions of the essence and target of critique are far apart and there has not been sufficient attempt to converge them. So some problems stem from the communication aspects that bring the students and the jurors into conflict, which mainly arises from the rules that organize and control the relationships between the students and the jurors. On the other hand the educational programme does not cover aspects such as presentation skills and verbal expression, while the majority of it is juror-related problems such as harmony between the jury members, subjectivity and motivation. It seems that architecture education has adopted educational tools developed in the past and is not equipped to face contemporary learning, assessment, communication and design dialogue.

ABSTRAK

Studio rekabentuk dan sesi kritikan telah menjadi satu keutamaan dalam pendidikan senibina. Pelajar akan mendedahkan diri mereka kepada kritikan dan penilaian dalam setiap sesi bagi memperoleh pengalaman serta meningkatkan kemahiran penyelesaian masalah dalam rekabentuk. Malangnya sesi kritikan ini masih belum mencapai tahap yang ditetapkan dalam kajian senibina meskipun kaedah kritikan ini adalah penting dalam komunikasi penyampaian idea serta medium penilaian rekabentuk. Objektif utama tesis ini adalah untuk menilai, membina semula dan mengembangkan idea sesi kritikan sebagai pedagogi dalam pendidikan seni bina diantara pengajar dan pelajar dalam rangka kerja kajian tindakan. Jabatan seni bina Universiti Kebangsaan Malaysia dan pelajar tahun 2 studio rekabentuk telah dipilih bagi kajian ini untuk kategori peringkat kritikal dalam pendidikan seni bina. Secara umumnya Penilaian adalah secara kualitatif, oleh itu 46 orang pelajar telah dipilih sebagai kajian kes untuk diperhatikan, dikaji dan dianalisis selama 4 semester. Tesis ini menggunakan dua langkah pendekatan. Pendekatan pertama ialah mendalami niat, harapan dan kaedah Ketua Studio, serta persepsi pelajar terhadap sesi kritik tersebut. Sesi kritik dan studio rekabentuk yang sebenar diperoleh dengan membuat perbandingan diantara hasil kajian dan gabungan data kualitatif dan kuantitatif. Pendekatan kedua ialah cadangan dan implikasinya ke atas studio rekabentuk. Analisis data terhadap pandangan pelajar dan pengajar menunjukkan bahawa sasaran dan intipati yang ingin dicapai itu masih jauh serta masih tiada persediaan kearah matlamat tersebut. Oleh itu mewujudkan masalah yang berpunca daripada aspek komunikasi yang menjurus kepada konflik diantara pelajar dan pengajar, ia dilihat berpunca juga daripada aturan dan kaedah yang mengongkong hubungan diantara pelajar dan pengajar. Selain itu, program pendidikan juga tidak merangkumi aspek kemahiran persembahan dan penyampaian lisan, kebanyakannya tertumpu kepada permasalahan pengajar seperti hubungan yang harmoni diantara pengajar, subjektiviti dan aspek motivasi. Oleh itu, pendidikan seni bina dilihat menerima kaedah pendidikan yang dibangunkan pada masa lampau namun tidak bersedia untuk menghadapi pembelajaran yang lebih kontemporari, penilaian, komunikasi dan dialog rekabentuk.

TABLE OF CONTENTS

	Page
DECLARATION	iii
ACKNOWLEDGMENTS	iv
ABSTRACT	v
ABSTRAK	vi
CONTENTS	vii
LIST OF TABLES	xi
LIST OF FIGURES	xii
LIST OF ABBREVIATIONS	xv
 CHAPTER I INTRODUCTION	
1.1 Research Background	1
1.2 The Importance of This Thesis	2
1.3 Problem Statement	3
1.4 Objective of Thesis	4
1.5 Methodology of This Research	5
1.6 Scope of Research	6
1.7 Structuring the thesis	6
 CHAPTER II LITERATURE REVIEW	
2.1 Introduction	8
2.2 History of the Studio-Based Learning in Architecture	10
2.3 Architecture Education in Malaysia	14
2.4 Description of the Design Studio Model	18

2.5	Learning in Architecture Design Studio	20
2.6	Theory of criticism	23
2.7	The Educational Value of Critique Session	27
2.8	Classification of Critique Session in Studio	29
2.9	Classification of Review in Architecture design studio	32
2.10	Assessment and Grading in Architecture Design Studio	36
2.11	General Rationale for Designing Assessment	39
2.12	Criteria-Based Grading Model	41
2.13	Placement of Thesis	44
2.14	Chapter Summary	48

CHAPTER III METHODOLOGY AND PROCEDURES

3.1	Introduction	49
3.2	Qualitative Research	50
3.3	Action Research	51
3.4	Case Study	53
3.5	Phase One: Qualitative Study	55
3.5.1	Instructor Interview and Questionnaires	55
3.5.2	Student Questionnaires	57
3.5.3	Data Analysis	58
3.6	Phase Two: Direct Observation	59
3.6.1	Proposed model	59
3.6.2	Data analysis	67
3.7	Chapter Summary	69

CHAPTER IV DESCRIPTIONS OF FINDINGS

4.1	Introduction	70
4.2	Phase One	71

4.2.1	Instructors' Interview	71
4.2.2	Students' View on Critique Session	77
4.2.3	Students' View on Assessment and Grading	86
4.3	Phase Two	92
4.3.1	Long Term Survey Description on Findings	92
4.3.2	Results from Direct Observations and findings	96
4.4	Phase Three	98
4.5	Chapter Summary	102

CHAPTER V DISCUSSION AND ANALYSIS OF FINDINGS

5.1	Qualitative Study	103
5.1.1	Discourse on Findings	103
5.1.2	Comparison of Students' Reactions to Different Critique sessions	106
5.2	Reality and Expectations	109
5.3	Direct Observation and Periodic Investigations	111
5.4	Comparison of Results Among Different Countries	122
5.5	Chapter Summary	125

CHAPTER VI RECOMMANDATIONS

6.1	Introduction	127
6.2	Recommendations	129
6.2.1	Developing Communication Skills	129
6.2.2	Developing Team Working Skills	130
6.2.3	Practical Projects	131
6.2.4	Student-Led Review	132
6.2.5	Process Over Product	133
6.2.6	Using Different Form of Review	134
6.2.7	A Wide Variety of Jurors	135
6.2.8	Break the Studio Class into Groups for Juries	136
6.2.9	Better Time Management of the Jury Process	136
6.2.10	Different Day for Submissions and jury	136
6.2.11	Obtaining Periodic Feedback from Students	136

6.3	Chapter Summary	137
-----	-----------------	-----

CHAPTER VII CONCLUSION AND FUTURE WORK

7.1	Conclusion	139
7.2	Significant Contribution of the Research	142
7.3	Suggestions for Future Works	144

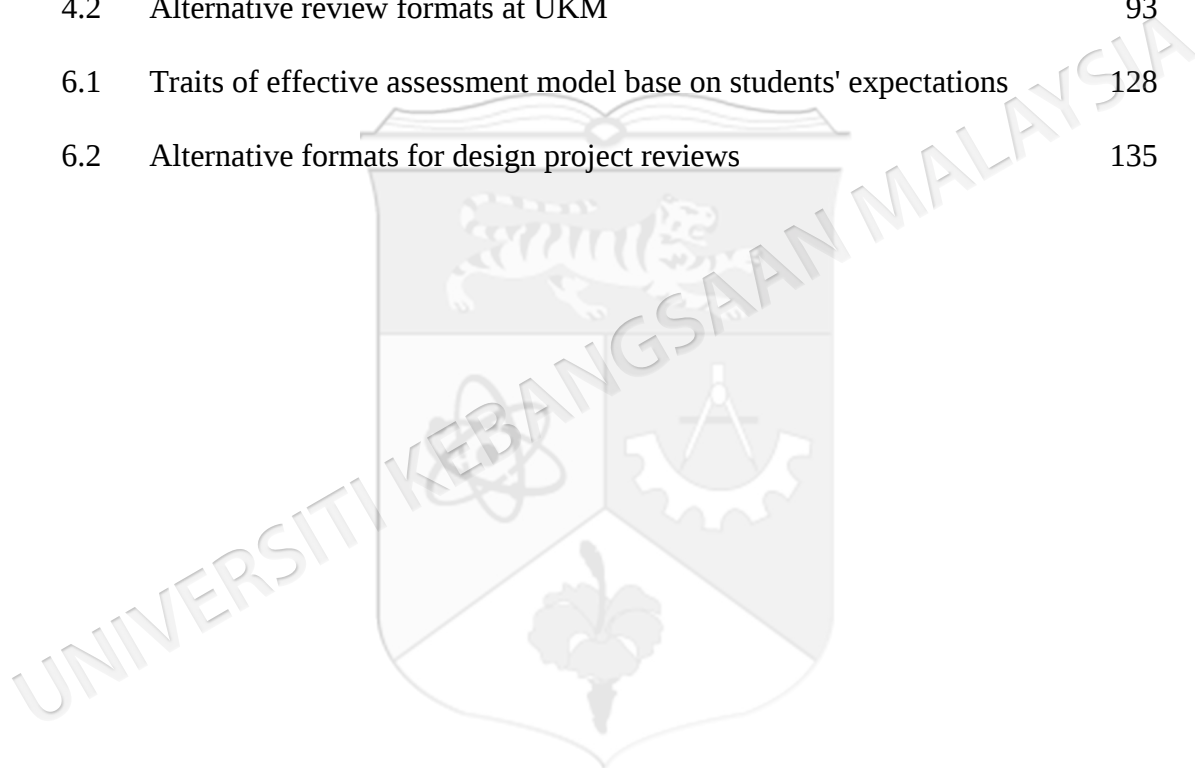
REFERENCES	146
-------------------	-----

APPENDIXES

A	Student Questionnaire	156
B	Instructor Questionnaire	161
C	Instructor Interview Question	164
D	Student Interview Question	165
E	Semester Calendar	168
F	Curriculum Vitae	173
G	Transcription of instructors interviews	194
H	Table of Students Results	204
I	List of Publications	208

LIST OF TABLES

Table Number	Page
3.1 Normative-Descriptive of design domain	62
3.2 Achievement of objectives	65
3.3 Grading according to aggregate scores	66
4.1 Summery of instructors' point of view on described item	77
4.2 Alternative review formats at UKM	93
6.1 Traits of effective assessment model base on students' expectations	128
6.2 Alternative formats for design project reviews	135



LIST OF FIGURES

Figure Number	Page
2.1 The Kolb Learning cycle	21
2.2 Critique Session Type One	29
2.3 Critique Session Type Two	30
2.4 Critique Session Type Three	31
2.5 Critique Session Type Four	31
2.6 Critique Session Type Five	32
2.7 Generic Qualitative Descriptions for each Grade	42
2.8 Achievement of Objectives	43
2.9 Number of Publication in Context of Critique Sessions	46
3.1 Cycle of Action Research	52
3.2 Professors, Doctors and Architects who attended in Interview	54
3.3 Some of Students who attended in Survey	56
3.4 Given Smiley Faces to Students and Their Equivalent in Likert Scale	57
3.5 Processes of research and analysis	58
3.6 Sample of evaluation sheet	59
3.7 Specification of implemented method by UKM	67
3.8 Process of research and analysis	68
4.1 Student Response to the Question: During past and current design studios at UKM, did your instructors explain the purpose of design jury to entire class?	78
4.2 Student Response to the Question: During past and current design studios at UKM, have you been encouraged to participate in jury discussion when another student is presenting project?	79
4.3 Student Response to the Question: Do you feel jurors follow a certain structure for giving criticism during a jury?	79

4.4	Student Response to the Question: Who do you think benefits from the ways juries are currently conducted and who should benefit?	80
4.5	Students satisfaction in desk crit, juries and pin ups, by Liker scale	82
4.6	Student Response to the Question: How much do you usually learn from each of following situations?	83
4.7	Student Response to the Question: In general, how much do you usually learn from each of following critique sessions?	83
4.8	Percentage of who are agree the following items are desk crit goals	84
4.9	Percentage of students who are agree the following items are juries goals	86
4.10	Summarizes of students' responses to key issues on jury practices	88
4.11	Students' responses to Question: Which factors make the assessment fair?	91
4.12	Students' participation in jury sessions - Obtained by direct observation	97
4.13	Students' participation in studio - Obtained by direct observation	98
4.14	Given Smiley faces to students and their equivalent in Likert scale	99
4.15	Students' feedback: Increasing participation	99
4.16	Students' feedback: Improving presentation	100
4.17	Students' feedback: Constructive criticism	100
4.18	Tutor feedback: Increasing participation	100
4.19	Tutor feedback: Improving presentation	101
4.20	Tutor feedback: Constructive criticism	101
5.1	How frequently students react in the following ways to crit sessions	107
5.2	Comparison of the frequency of students' reactions to desk crits and juries	108
5.3	Student Response to the Question: How often instructors encouraged you to attend in discussions?	117
5.4	Gender- based studies on percentage of students' reaction in desk crits	118
5.5	Gender- based studies on percentage of students' reaction in jury sessions	119
5.6	Improvement of marks after using proposed model	122

5.7	Comparative data - How frequently students face these feelings in crits	123
5.8	Comparative studies on students' preference in following questions	124



LIST OF ABBREVIATIONS

RIBA: Royal Institute of British Architects

AA : Architectural Association

AIA: American Institute of Architecture

IRT: Item Response Theory

CTT: Classical Test Theory

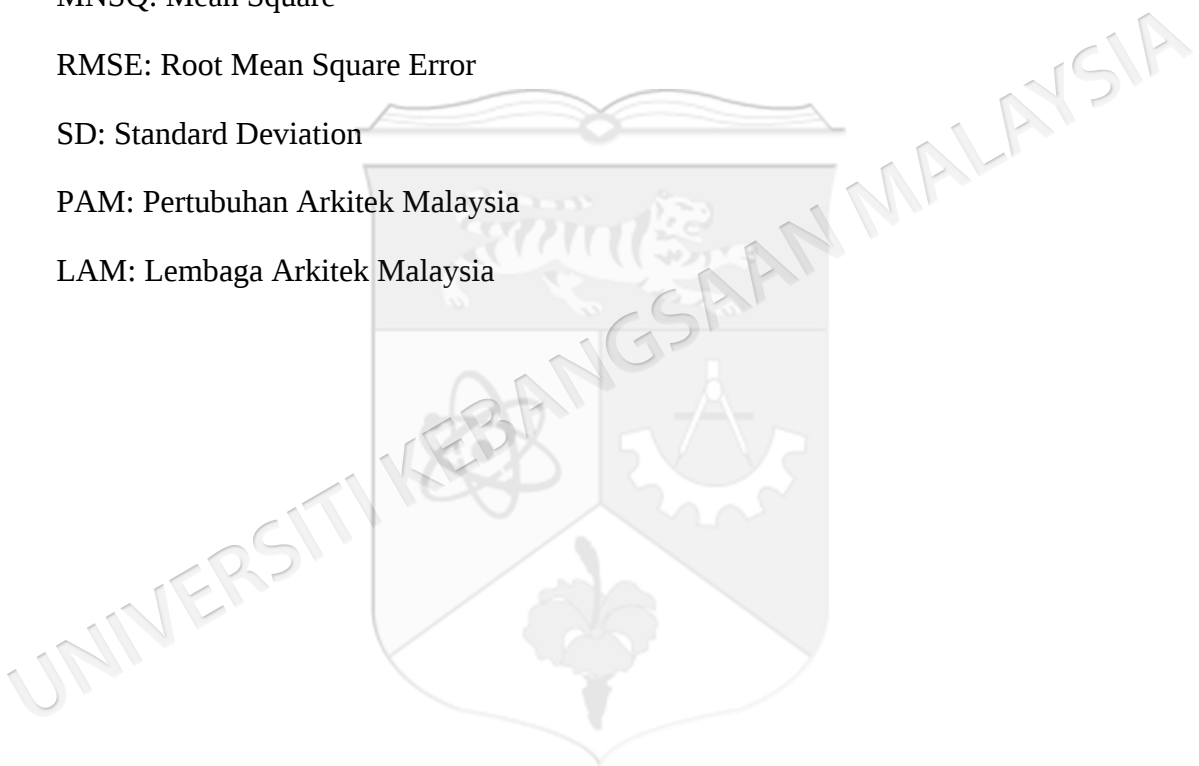
MNSQ: Mean Square

RMSE: Root Mean Square Error

SD: Standard Deviation

PAM: Pertubuhan Arkitek Malaysia

LAM: Lembaga Arkitek Malaysia



CHAPTER I

INTRODUCTION

1.1 RESEARCH BACKGROUND

Education is an important stage of effect on future. Especially in art and architecture which is completely linked with spiritual and mental aspects and has direct effect on thoughts and ideas. Learning by doing was introduced into art and architectural education at school of fine arts in Paris in the 1890s. All processes and procedures of problem solving were transmitting through lectures and critique sessions. The design studio sessions and crit sessions, are the maximum part of education and the most effective ones till the design problem took preference over the lecture and became the vehicle by which architecture was taught (Fisher 2000).

The project review or crit session has been the cornerstone of architecture education for generations. In it, each student will have a chance to express his own perceptions and ideas and make a dialogue with teacher and peers and expose himself to their judgments and in this way by gaining experience they try to upgrade his problem solving skills. This method is based on reminding the learned issue, data analysis and creativity in re-employing experiences and knowledge and all the efforts are to increase student's self criticizing ability by continuous criticisms (Schon 1987).

Upgrade or end of a level of training in this system depends on student's ability to achieve a unique and creative response. So critique in the studio helps students develop their own critical abilities by instilling the process of reflecting and reacting to design intentions, which leads their design decision. Then by reacting to the consequences of each action they gain self-conscious experience about what they are

doing. The important points in evaluation 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 the best control 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, because there is no time for any revision and no effective influence would achieve. Therefore instructors and students should have an appropriate perception about purposes, objectives and educational value of evaluation and assessment.

The critique or project review in schools of architecture have practiced for decades, and this historical continuity may suggest that in the past it has been a successful model of transmitting knowledge and skills of architecture and still it can be proper for training next architecture generation. This turns the tradition model to sacrosanct which is despite an underlying concern in most schools of architecture about the review, its effectiveness and even its morality; it has retained its position as the predominant teaching method and replicating all around the world with minimum exploration and inquiry.

1.2 THE IMPORTANCE OF THIS THESIS

Education is a continuous and consecutive process. Thereby learning skills and knowledge in any context, requires strong and potent academic basis. Designing is a praxis that requires a controlled conduct. The knowledge of design transmits to students through critiques in the studio. So, critique is not a simple lecture because students listen and imitate the teachers. In any discussion about the crit or jury in architectural education we quickly find how slippery the object of scrutiny is. Remarkably little has been written about review and aspects of it, and even less has it been the object of serious investigation research (Salama 2010).

This study lays the foundation and accomplishes the task of understanding the architectural design studio and critique process by giving a body of literature on critique and specifically focusing on evaluation and assessment. Critique sessions in contrast of conventional classes, are new experience for students and expose them to

new learning situations. Lecture classes replaced by design studios and desks with drafting table and there is no expected outcome for the assignments. Moreover they expected to expose themselves to others critique and learn how to find creative solutions, and their success would assess in this way as well. The main actors in conventional settings are instructor and students, but students' perception and expectation have been minimally discussed. Since experience creates an important marker on people perception, this study illuminates student experiences in the design studio rather than emphasizing the professors' experience by using live experience in the studio to avoid being influenced by tutor perceptions. This study, therefore, will help in the development of future studies that emphasize the importance of interaction in the architectural design studio environment and its potential for positively influencing teaching and learning in higher education.

The results of this study are important because there is value in understanding students and teachers experiences and expectations, merge them together and define a convergence framework for crit sessions. Over decades schools of architecture increased their student intake and reduced the number of tutors while retaining the same academic standards in a shorter academic year. The studio culture traditionally has involved one to one tuition, the design focus is self absorbing and time consuming which many schools can now ill-afford (Nicol & Pilling 2000). Teachers are expected to reduce students contact time in order to maintain a cost effective staff-student regime and staffs are expected to recruit and teach more students in less time. In this climate, evaluation involves assessing the designed product rather than the student's academic progress. These turned teaching to become much more quantifiable. This study will present recommendations to cover the shortcomings of existing models and prepare a cornerstone for other researches.

1.3 PROBLEM STATEMENT

The expectation of facing routine professional critique and resolving the dilemma of design through continues process of reflection makes the critique sessions very important. The knowledge, skills, attitudes and values that architecture students acquire are formed by the social culture of school and the manner of teaching and

learning and specific formal content of the course (Shon 1987). While reflection in action is not new to architecture education, there is a need to plan for it in design courses. The studio environment and critique sessions, would seem to be an ideal situation to develop learning skills but the potential of it seems not fully realized and used, for a number of reasons. Few critique session programs are consciously structured. Critique and evaluation process is an ancient inherited model which is ambiguous. These prompt us to test the hypothesis and find the proof of being right or wrong of them.

Despite done studies and surveys on critique sessions, there is no comprehensive documentation and review in this field. Hence the shortage of extensive literature review exists.

Teaching and learning are part of continuous process which students have main role in it, but their portion and rights have neglected in majority of studies and researches. There are minimum researches on students' point of view to the critique sessions, their good or bad experiences and their expectations. There is a huge gap between students and tutors perceptions to the critique. So there is need for a study to critically analyze the idea of critique based on students and tutors experiences and point of view.

Finally what is obvious is that evaluation of the architecture education has been documented in western countries and they try to keep up their architecture education and design studios abreast to new generations' needs and expectations. In Malaysia there is no appropriate research about critique in architecture education. So there is a real need for study, evaluation and even proposing new framework to support the educational need of students in undergraduate years.

1.4 OBJECTIVE OF THESIS

This research focuses on evaluating the current crit sessions as pedagogy and assessment tool in architecture design studios and giving new framework for its

evaluation and assessment in order to improve both learning and teaching methods. The objectives of this research are described as follows:

- i. To document, study, explore and analyze different type of approaches, methods and practices of critique session from different architecture school and creative education all over the world.
- ii. To critically analyze the idea of critique sessions (desk crit and jury sessions) based on tutors and students experiences, comments and direct observations, second year design studio as case study.
- iii. To reconstruct the idea of critique session as pedagogy

1.5 METHODOLOGY OF THIS RESEARCH

To the research action reported in this thesis, a multilayered methodology is deployed. Due to lack of literature review on critique session and its pedagogical influences and evaluation and assessment use, an extensive study is conducted and new definition in format of classified information presented. To induct generalities of concerns about critique sessions broad investigation has done and three universities (Manitoba University-Canada, Louisiana University-USA and Misr International University-Egypt) which were doing researches in jury sessions have chosen as comparative study model.

To increase particularities second year architecture design studio of Universiti Kebangsaan Malaysia has chosen in two batches (2010-2011 and 2011-2012) for four semesters with total number of 46 students. Two empirical studies are carried out with the intention of investigating lecturers' and students' perceptions and expectations from critique sessions. Six lecturers and 46 students have responded to their specific questionnaires and interviews at the beginning of the academic year. Moreover students also filled up another questionnaire after final submissions to record their satisfaction level from implemented model. Direct observation used for whole study

period which is four semester (for two different batches). Methodology would be discussed in detail separately in chapter three.

1.6 SCOPE OF RESEARCH

This thesis will employ a qualitative and quantitative approach to explore perceptions of critique employed in the studio. The qualitative approach used to construct the borders of research and quantitative analysis to provide an indication of the effectiveness of the implemented model. So the general outline of the thesis is:

1. Action research is the used framework and approach of this research that will be detailed up at chapter two and three.
2. Manitoba University-Canada, Louisiana University-USA and Misr International University-Egypt are used case studies in this research to structure the research approach and comparative study. Focus is in Malaysia which also happened in other countries based on investigations on case studies.
3. Sample of this research are 2nd year students and only at UKM, in two different batches (2010-2011 and 2011-2012) for four semesters with total number of 46 students. The majority of the students in the program are Malaysian citizens with a small percentage of Indonesians.
4. Critique sessions and their pedagogical and assessment attributes would only be focused and not other curriculum developments etc.

1.7 STRUCTURE OF THE THESIS

In chapter one a preface on architecture education and critique as its backbone presented. Then the rationale for doing this study has given, which was because the architecture design studio has not been at the forefront of discussion in design circle or in education. Next the problems, purpose of study, limitations and scope were discussed. In chapter two, the relevant literature about architecture education

generalities, descriptions, models, characteristics, advantages and disadvantages of the most commonly used critique sessions, critique theories, assessment and grading have reviewed. Based on an extensive literature review on the educational value of the critique session and the embedded communication processes, similar problems have been identified across all the domains of investigation. Following that, chapter three provides an action research and a multilayered methodology. Due to lack of literature review on critique session and its pedagogical influences and evaluation and assessment use, an extensive study is conducted and new definition in format of classified information presented. Then an overview of how the study was organized from data collection phase based on questionnaires and interviews, direct observations provided.

Chapter four describes the findings based on instructors and students perceptions and point of view. Chapter five discusses the implemented changes which come from questionnaires to find strong and weak points of implemented models. Comparative study on students' and instructors' perspectives in different issues and analysis on obtained results from different countries and some of sections discussed in this chapter and basis for recommendations for crucial steps. Chapter six presents recommendations for improvement. Finally, chapter seven presents the conclusion, significant contribution of the research and suggestions for future work.

CHAPTER II

LITERATURE REVIEW

2.1 INTRODUCTION

This literature review focuses on three relevant areas; design studio, criticism, assessment and grading. The first area is architecture design studio, in general, drawing on the limited studies that have been done on the design studio and focusing specifically on the characteristics that make the design studio different from the traditional classroom (Agryis 1981; Anthony 1991; Austerlitz 2002, Aravot & Ben-Ze'ev 2002; Cuff 1991; Koch et al. 2002; Schwennsen 2002; Dutton 1991; Salama 1995; Salama 1998; Salama 2002; Sanoff 2003; Schön 1981; Schön 1983; Schön 1985; Schön 1988; Seidel 1994; Stamp 1994; Kolb 1984).

This research examines the evolution of the architecture design studio which is a relevant discussion to understand how the design studio functions, what the architecture design studio pedagogy is, and what interaction in the design studio normally entails. Second relevant area is criticism that in the fields of art and literature is well established and respected. Architecture criticism, however, both in the written and verbal forms have not received its due amount of attention as an important part of our discipline and the criticism that currently applied in architecture design studio is not well understood. There exists a need to further develop the understanding of criticism, particularly as a main feature of the studio setting, attempt to contribute student's understanding of the physical environment and their responses to it.

The following literature review covering several topics relating to criticism. This literature review topic has been divided into four categories: theories of criticism; classification of critique session in architecture studio; the history of the design studio;

and methods that utilize criticism in a design studio, desk crits and the jury (Dewey 1938; Daracott 1991; Attoe 1978; Meyer 1991; Hopkins 1994; Graham 2003; Kurt 2009; Ciki 2009).

Small number of references that most of them are talking about the theory of critique motivated us to redefine the critique sessions and reclassify them to be easily understood and prepare fertile base for future studies. The third relevant area is assessment and grading which is new especially in architecture field and minimum number of research is articulated. What can be base of the literature are just based conventional experiences in architecture studios in long period of time or mentioned preferred forms of assessment and grading in questionnaires which are using to evaluate related issue, but the results are quite far from assessment and grading in architecture and researches in other fields which discussing about grading models.(Salama 2010; Sadler 2005; Crooks 1996; Miller 1974; Gibbs 1999; Brown 1999; Canon & Newble 2003; Hewitt 2007; Gijbels 2005; Montgomery 2002; Biggs 1999; Mager 1962).

Here, first the assessment and grading in architecture design studio will be clarified and then general rationale would be introduced to define a proper assessment and grading model and criteria based model would be discussed as the most recommended model by precedent researchers. This literature would be the base of introducing criteria based grading model in architecture design studio. Examine these literatures shown that there is a sever lack of studies on critique session as continuous process and its attributes of teaching- learning, evaluating, assessment and grading in architecture education.

The importance and archaism of critique in architecture prompted us to chain these together. Also rare studies have done considering students perceptions, expectations and needs from critique, critique sessions, assessment and grading and no researches had done to improve the existing model or test the recommendations and suggestions. Since the climate of higher education is turning from teacher -based to student-base and architecture should enter to this improvement. This literature would

be the base for new research to reconstruct a pedagogical and assessment framework for critique sessions in architecture design studios.

2.2 HISTORY OF STUDIO-BASED LEARNING IN ARCHITECTURE

Before the establishment of the design studio environment, design was learned through an apprenticeship model or a pupilage model, and the design professions were organized in associations (Fisher 2000; Kostoff 1977). Current architectural education arises from the fact that its various elements were drawn from differently structured national fields and placed into other contexts. Current method of receiving architectural training at an institution is the result of synthesizing the educational systems from several countries. The origins of the design studios are attributed to four different systems: Britain, France, Germany, United States and specially two art movements: the École des Beaux-Arts (School of Fine Arts) and the Bauhaus.

1. The UK schools

The natural mode of education for Anglo system of architecture profession is the self-controlling mechanism of apprenticeship, strictly pupilage. This was a modification of the medieval apprenticeship system. One-half of all entrants to the occupation were trained through pupilage by 1800, rising very quickly in the opening decades of the nineteenth century to displace other entry points into the occupation, such as through the building trades.

Pupilage usually lasted five or six years and often included attendance at a local arts academy, and perhaps foreign travel. The United Kingdom pioneered the concept of professional association.

Royal Institute of British Architects in London (RIBA) has established in 1837. The first school in the United Kingdom to offer a structured program of instruction was the Architectural Association (AA), founded by disgruntled architectural assistants in 1847. The AA educated only a tiny proportion of practitioners through the one century, and only began to offer a full-time course (four years duration) in

1889. Day classes were not offered until 1901. UK model has strict emphasis on apprenticeship model.

2. French model: École des Beaux-Arts

To provide a more structured education, deeming artists more credible through the development of art exhibitions, different academies were created. The most renowned of these, the *French Académie Royale de Peinture et de Sculpture* (The French Academy of Painting and Sculpture) (Draper 1977; Kostoff 1977; Zanten 1980), was established in 1648 (Lagasse et al. 2001). Around this time (the 17th century), organized group education was established. Regardless of this group sensibility, the dominance of the master as the sole provider of knowledge remained. The French architectural field was structured very differently to the British and France invented academic architectural education. It means that 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 des Beaux-Arts* in Paris in the 1890s. A government-supported school, the Ecole was divided into two sections: one for architecture and one for painting and sculpture.

The focus of student life and activity of the Ecole was the atelier (design studio) where concours (competitions) were carried out. Most ateliers were run independently by patrons (design professors). Patrons were practicing architects, and would visit in the evenings for critiques. The ateliers were known for their lively atmosphere, based on traditions of cooperation and rivalry. The newest nouveau (junior student) and the most senior 'ancien' helped each other; the latter would criticize the work of the former, and in return would receive help on major competition submissions. There was group loyalty within the atelier, and a sense of competition against other ateliers.

The cornerstone of the Beaux Arts system was the "design problem" assigned to the student early in the semester and carefully developed under close tutelage. It began as an esquisse, or sketch problem, and ended charrette. Charrette, French for "cart," refers to the carts in which the finished drawings were placed at the deadline hour for

transport to the "master" for critique. The Beaux Arts teaching systems relied heavily on brilliant teachers and learning-by-doing. Competition was intense and the end results were beautifully drawn projects in traditional styles which were often defensible only on grounds of intuition. The style was mostly neoclassical and the favorite building type was the monument. Submissions at the Ecole were initially reviewed by design tutors alone, behind closed doors. Students were excluded, and would retrieve their work after the jury had finished. Students later rose up against the École system because of the emergence of the modern movement. This student uprising in conjunction with the rise of the modern movement in architecture became a catalyst for the abandonment of the Beaux-Arts system (Littmann 2000).

3. Germany school

In Germany, architectural education was taught at technical universities. German professions arose with the development of powerful civil services in the late eighteenth century. The architect Walter Gropius was a prominent German leader of the modern movement (an architecture movement in the 20th century) that started in 1925 (Fitch 1960; Nerdinger 1985), and within the modern movement, the Bauhaus, established by Henri Van de Velde, arose (Frampton 1985). The modern era's educational principles were changed toward training students as craftsmen, combining art with the modern technology of the time (Nerdinger 1985), and the modern era itself was characterized by the use of steel as a building material and the use of art and architecture to serve people's special needs (Frampton 1985). The modern-era teaching methods ranged from lecture courses to workshops where students would learn how to build from the day they stepped into the workshop (Gropius 1968), while the Bauhaus workshop pedagogy, established for hands-on, interactive, and integrative learning, reinforced the design studio model as a place for all student activities to occur (Nerdinger 1985).

4. United states

European tradition has greatly influenced North American architectural education. Americans often looked to Europe for a standard. The Ecole's philosophy was imported to the United States, and most architecture schools in the early part of this

century had at least one Paris-trained professor. The United States provides a third model beside the practitioner-dominated system of professional education of Britain and the state-dominated system of France.

The major differences between the British and American systems of the professions are the much weaker historical continuity and associationalism of the latter. No architect needed to be licensed until 1897. American Institute of Architecture (AIA) has established on 1857 but it has never exerted the control of professional education that the RIBA does: the National Architectural Accrediting Board, loosely associated with the AIA, only began its work after World War II, while the RIBA was exerting direct control over university schools from their foundation.

The history of design education illustrates some important characteristics of the current design studio mode from its inception; however, Austerlitz (2000); Aravot & Ben-Ze'ev (2002) outlined four characteristics that make the modern day design studio a different learning environment than it was in the past:

- (a) The reflective learning component
- (b) The personalized design process, which implies creativity
- (c) The instructor's influence on the product of the project
- (d) The fact that a student's actions, personality, and feelings are laid out in the open

In contrast to this list, the traditional classroom has characteristics such as (a) the student as a blank slate mentality, (b) a non-requirement of creativity, (c) the instructor not having a direct influence on the process students use to produce work, and (d) an attitude that students' personalities are unimportant, mainly due to large classroom sizes.

Indeed, other characteristics suggested by Lueth (2003) also make the design studio a unique educational environment unlike other environments: (a) the influence that students have on each other; (b) the influence that students could have on the instructor (in terms of creating an environment that may or may not be conducive to teaching; (c) the influence of the physical environment; and (d) the influence that the

products created during class time and outside of class time might have on the students' learning.

The most significant change that took place in the design studio since the 1930s was the gradual evolution from closed juries to open juries. Open juries later became something of a status symbol for educational institutions, a means by which prospective students could sit in on a critique and form an opinion on the intellectual rigor of a particular school (Anthony 1991).

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 they may be given a diploma for bachelor's degree in architectural technology. Another two years of graduate work an advanced architectural, structural design and professional subjects they 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 (Lackney 1999). 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. The understanding and portrayal of the architecture studio-based learning and their associated problem contributes to the development of a set of recommendations to improve the performance of the architecture critique sessions and its acceptability to architecture students.

2.3 ARCHITECTURE EDUCATION IN MALAYSIA

The Board of Architects Malaysia (LAM) and the Malaysian institute of architects (PAM) are two organizations that play varying roles in architectural education in

Malaysia. The LAM is a statutory authority responsible in determining the standard for entry into the architectural profession and the accreditation of programme of study in architecture. For this purpose, the council of architectural education Malaysia (CAEM) was formed under the auspices of LAM to regulate all matters relating to architectural education (LAM 2005). The first architectural school in Malaysia began in technical school in Kuala Lumpur in 1925 (PAM report 2010). 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, university of malaya (UM) in 1996, international islamic university Malaysia (IIUM) in 1997 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 (PAM report 2010).

As early as 1971 again, the National Cultural Congress has suggested that "A complete Faculty of Architecture to be established in UKM." Therefore, it was highly desirable for the university embarked to create architecture program in order to contribute towards national development. The department was established in November 2002 with an aim to produce highly architecture graduates who are able to infuse Malay architectural features into contemporary architecture. For starters, the Department had two academic staff and three support staff. But now, the department

consists of 12 academic staff , 2 associate professors, 1 senior lecturer, one senior fellow, five lectures and three tutors) and eight support staff. The department offer academic programmes for bachelor, master and doctorate levels in architecture and architectural engineering disciplines (PAM report 2010).

The purpose of undergraduate education is to produce architecture that architects be sensitive, creative, innovative, and analytical in design and design ideas for community needs such as buildings, bridges, communication devices and recreational areas. This effort is in line with Vision 2020, which challenged architects to develop Malaysia as the high-tech industry and high morals and ethics. The vision of department is to be committed to academic institutions as centers of professional education, outstanding research and development in the Malay architecture. In addition, its mission is to be committed to professional education and the learning process for developing all aspects of Malay architecture.

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, and accreditation respectively. RIBA's recognition is considered an achievement as it is the first program in Malaysia to be recognized (PAM report 2010). Architecture education has different aspects that each of them needs to be put under scrutiny. Accreditations of education process, curriculum, professionalism, pedagogy are some of these aspects. Investigation in curriculum was the most context which attracted scholars.

Parid Wardi Sudin and Mohd. Hamdan Ahmad traced a historical overview in Malaysian architecture education (Sudin & Ahmad 2003). They assert that the semester system introduced to architecture schools in 1983 and average credit was 15 per semester, and in this way the heavy dependence on the examination moved away and student allowed to study at their own step. They mentioned that this was the first step toward the flexible education in architecture. They also made a question to public

that “how the architecture education should structure to support the skills and knowledge need?” Mohd. Hamdam Mohammad, Zatur Rawihah Omar, Dilshan Remaz Ossen, Syed Ahmad Iskandar Bin Syed Ariffin conducted a research on twelve universities from Asian region (Malaysia, Hong Kong, Thailand), Australia, United Kingdom and America (Mohamad et al. 2005). The result showed that architectural education are far beyond professionalism and demand for research based on curriculum.

In 2006 Zalina Shari and Mohd Fakri Zaky Jaffar worked on sustainable architecture education considering the curriculum issue (Shari & Jaffar 2006). Kamarul Afizi Kosman, Mohamad Tajuddin, Syed Ahmad Iskandar Bin Syed Ariffin discussed on crisis of identity in Malaysian architecture and its relation to architecture curriculum (Kosman 2006). Zuhairuse Md Darus, Fadzil Hassan, Zulkiflee Samad discussed on Professional Development, Education and Training as Part of technology for the learning process they conclude that technology is disseminated and roles that must be to be played by the parties responsible for their design and delivery (Darus et al. 2009).

Eyeballing done researches in education issue shows that there is a sever lack of documentation, observation, research on architecture studios and lack of discussion about the reality of design studios and the process which the knowledge transmits from tutor to students. The other interesting thing is that majority of these researches are generating by universiti teknologi Malaysia and there is lack of discussion among universities in Malaysia for improvement. Tajuddin (2011) in a forum at UTM, stated that architectural education in Malaysia is in a state of crisis and mentioned that neglecting the need of documenting and writing the education experience as main reason.

In addition he said that if a developing nation does not place importance in learning from past experience which must come in form of documentation then they would fall into swamp of reinventing the wheel over and over again. It seems that an action research program can help to open the ice among national universities. The architecture education has been analyzed and also criticized in the literature,

specifically within the English speaking world. This is evident in the amount of publications that have dedicated entirely or partly to discussing and debating the jury practices, getting feedback from those involved in the jury process, and with the general aim conceived as improving design learning and the mechanism by which students work is assessed. While the evolution, analysis, criticism of the critique session is well documented within the western context, a simple investigation on current English publications reveals a severe lack of how such an evolutionary process took place in other parts of the world, namely Malaysia.

2.4 DESCRIPTION OF THE DESIGN STUDIO MODEL

The given description for design studios are same and have minimum variation. This seems root in the identity of design learning which Schon named it reflection in action (Schon 1988). Pioneer researcher in architecture education is an American philosopher, Donald Schon, which his theories in his books are base of all further researches and studies. The design studio is a type of professional education, traditionally in schools of architecture, in which students undertake a design project under the supervision of a master designer.

A characteristic feature of the architectural design studio is its learning methods, which are rooted in experiential learning or learning by doing (Biggs 1999). The design studio acts as a micro environment for the development of professional competence. Through design studio projects students acquire knowledge, develop skills and explore appropriate professional, social and cultural attitudes (Weil & McGill 1989). In this space, student spend much of their working lives, at times talking together, but mostly engaged in private, parallel pursuits of the common design task (Schon 1983).

It is a process, a way of thinking during which the many elements, possibilities, and constraints of architectural knowledge are integrated (Boyer & Mitgang 1996). Design studio learning embraces numerous forms of representation such as visual, verbal, tactile, written- and is therefore rich in communication potential. It also sometimes involves students working in groups, and so it is arguably rich in team

working potential (schon 1988). At the beginning of a semester, a design problem is introduced by the studio professor to be solved over the course of the semester or part of the semester. The design problem is given in the form of a brief or program that outlines client goals, user requirements, site conditions and other technical information that may be acting as a constraint on the problem (schon 1988).

During the early stages of the design project, students may be asked to collaborate in doing research on the general issues surrounding the design problem to be shared with the entire studio class. As the design project progresses, more of the students' work will be of an individual nature resulting in a variety of alternative design solutions some similar to each other, others radically different. In addition, supplementary lectures from the studio professor on various aspects of the problem are often given on a weekly basis to the entire studio class in which a number of design precedents are reviewed and critiqued. In addition, the studio instructor may provide lectures and demonstrations concerning special skills and techniques that will be required to successfully address the problem (Pilling 2000).

The design studio involves an active dialogue between the student and studio instructor which acts as twice weekly form of critical feedback on both the student's process and product surrounding the design problem. During the session, 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 design studio sessions, students are expected to more fully explore and test these options and suggestions by revisiting their solutions. 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 to as design iteration. The student may produce dozens of design iterations before the final

design solution is arrived at. Simultaneously, the studio instructor will critique the quality of the student's process of design inquiry and ability to reflect on their own process of designing. 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 that includes other studio instructors from the school of architecture, practitioners, even surrogate users and clients intimately familiar with the design problem in practice. During the interim crit, fellow students look on waiting their turn to present to the jury that can take several hours. The studio instructor introduces a language about designing, in doing so, the studio instructor acts as master to apprentices modeling appropriate behavior, values, design strategies, and thought processes (Schon 1983).

2.5 LEARNING IN ARCHITECTURE DESIGN STUDIO

The design studio offers the potential to provide a multifaceted and enriching learning experience. One of the inherited educational strength in studio teaching is the implicit commitment to experiential learning or learning by doing. Schon (1987), in his work educating the reflective practitioner, describes design studio teaching in architecture as a 'practicum'- a setting designed for the task of learning a practice. In a context that approximates a practice world, students learn by doing, by undertaking projects that simulate and simplify practice. Schon calls this a 'virtual world', relatively free of pressures, distractions and risks of real world (schon 1987).

Schon (1983) showed that expert professionals resolve dilemma of practice through a continuous process of reflection in and on action. They use reflection to discern patterns in the complexity of practice situations, to identify critical factors and to ask further questions before resuming action. Over time this reflective activity becomes a natural part of thinking of professionals and becomes a habit of mind.

While some aspect of Schon writings have been criticized, Eraut (1994) confirmed the benefits of cultivating critical reflection in students in their undergraduate years in order to help them develop more productive thinking and the wisdom or artistry needed for practice. Researches by Kolb (1984) and Cowan (1998) suggests that each of us has a particular set of learning characteristics that determine

the ways and means by which we learn. However these innate learning preferences are almost immediately modified and developed by activity and experience. Figure 2.1 reveals how this continuity over time and in relation to context, through the variety of learning experiences would encounter (Long 1990; Wolf & Kolb 1984).

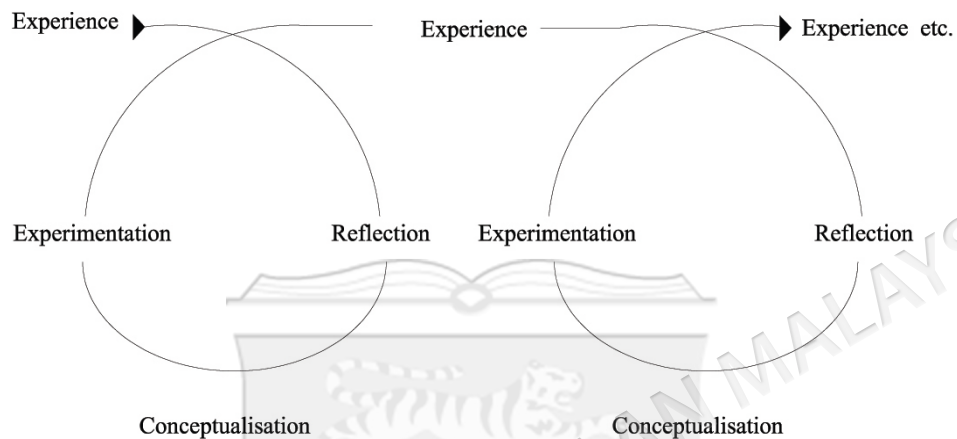


Figure 2.1 the Kolb learning cycle

One of the strengths of the architecture education is that it has always used a range of teaching and learning strategies. Experimental learning through the studio has been at the core of these. The project as a vehicle for learning by doing is recognized as a highly successful mechanism for developing and embedding knowledge and skill (Manley & Claydon 2000).

As an activity the design process, in education and practice, has been used as an exemplar by Schon (1983) and others of how reflection in action operates. The iterative nature of the design process also mirrors Kolb's learning cycle and connects theories of individual learning styles and preferences (Honey & Mumford 1992; Honey & Mumford 1996).

Researchers such as Kolb (1984) and Cowan (1998) have shown how learning can be enhanced when it is organized around cycles of learning activity and reflection.

(Figure 2.1). Cowan (1998) distinguishes three different types of reflection that can contribute to learning and development:

- Students can reflect before they engage in activity (that is reflection for action)
- They can reflect while in activity (reflection in action)
- They can reflect after an activity (reflection on action) and before going on the next activity

Each of these three helps develop deeper and more elaborated knowledge and skills. While active learning is a necessary condition for the development of personal understanding it is not sufficient on its own, according to learning research (Brockband & McGill 1998).

To develop understanding from experience requires students consciously and systematically to reflect on the experiences that result from action (Brockband & McGill 1998; Walker 1985). Critical reflection is a process of analyzing and evaluating personal experience, and making sense and generalizing from that experience so that future learning is more skillful and better informed. Reflection is a way of linking together theory and practical experience so that both inform each other. Five key principles of effective learning and their processes draw on the researches on learning and teaching over the last 20 years by Biggs (1999), Nicol (2001), Ramsden (1992) are:

- Learning is an active rather than passive process.
- Reflection on learning develops wisdom or artistry in practice.
- Collaborative learning enhances individual learning.
- Authentic learning tasks develop professional competencies.
- Self and peer assessment develop skills for lifelong learning

Research on learning in higher education shows that what the student does is actually more important in determining learning than what the teacher does (Shuell 1986). The development of autonomy in learning requires that students learn not only how to judge their own design output (product) while learning, but also how to evaluate and improve upon their own learning processes from one design project to

the next. More specifically students need regular opportunities to step back from design project activities in order to analyze and evaluate how they learned through those activities and to provide their own feedback and performance judgments (Volwes 2000). While reflection in action is not new to architectural education there is a need to plan for it in the design courses.

2.6 THEORY OF CRITICISM

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. So there are two important points here, one is how to criticize and the other is how to accept and respond to criticism (Dewey 1934). In *Architecture and Critical Imagination*, Attie (1978) 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.

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 (Lodge 1999). By this definition the critic will be a person who uses his 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 crits' 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. Hopkins (1994) asserts a framework for criticism need that would move criticism beyond personal preference and the "I like this" or "I don't like this" and

other subjective statements. Meyer (1991) believes that employing criticism in practice has three important contributions to the discipline of architecture:

- 1- It helps to foster a precision of design language. Through describing, comparing, and use of terminology, criticism narrows the possibility for ambiguous interpretations.
- 2- Criticism creates new ways to think and evaluate. By employing existing theories, which reflect past values, new values and ideas are likely to emerge. Thus, practice as criticism can lead to new directions for approaching design.
- 3- Contribution criticism- can have for the discipline- is to motivate for changes.

Also understanding of the process of criticism would also allow the student to make demands of the critic instead of being content as a recipient (Attoe 1978). Analyzing the different written ideas of criticism from philosophers, architects and design professors, has lead to a hierarchy process for criticism that has the potential to be used in design juries (Attoe 1978; Lodge 1999; Daracott 1991; Berrizbeitia 1997; Doidge 2000). This process consists of the following steps:

- A. Listening and seeing
- B. Description
- C. Analysis
- D. Interpretation
- E. Guidance
- F. Evaluation

A. Listening and seeing

As Dewey (1934) believes the function of criticism is the reeducation of perception of works of art; a difficult process of learning to see and hear. critique starts with active listening to students intentions to understand the process that lead to the invention of that special design. And trying to recognizing the students' decision making in their drawings and three dimensional models by careful looking on them while Professor listening to the student's verbal description of ideas assisted by sketches and models.

B. Description

The critic gives verbal account of what one sees and responds to the design. By this the students will understand what others realize from his design and compare it with his intentions (Schon 1988). Based on philosophers idea (Dewey1934; Attoe 1978; Hopkins 1994) three things has affect on how a critic describes a project:

1. The critic's own perception
2. Different ways of describing
3. Sharing different aesthetic experiences

C. Analysis

Dewey (1934) implies that analysis and discrimination must result in unity. To be a manifestation of judgment it must distinguish particulars and parts with respect to their weight and function in formation of an integral experience. What is meant is that the critic shall seize upon some strain that is actually there, and bring it forth with such clearness that the reader has a new clue and guide in his own experience. In an architecture jury, analysis may consist of discussing how different elements reinforce the student's concepts.

Hopkins (1994) also says that analysis should incorporate issues of context, including cultural, historical, geographical, ecological, social, and political context to better understand the work. The process of analysis would allow the opportunity for discussion of differing viewpoints on the project to be exchanged between teachers and students. Criticism is a way of revealing our habits of seeing the cultural and logical frames within which we look at things. Criticism is also a way of seeing things in relationship to other things. It is a way of analyzing the connections between a work and its larger cultural, social, and environmental context (Berrizbeitia 1997).

D. Interpretation

Hopkins (1994) implies that Interpretation helps to explain the meaning of the work, forms or style, based upon the critic's own beliefs, culture, and values. Interpretation

may also include the critic's emotional or intuitive response to the work. This step should be adjoining to guidance.

E. Guidance

The criticism should offer suggestions for future design decision to inform the student (Hopkins 1994). Attoe (1978) in his book architecture and critical imagination says that the ends of criticism should be the beginnings. If criticism does not have a forward looking bias it will be of little use and in fact of only passing interest. In fact critique would turn to forceful, aggressive speech or flow of approval statements.

F. Evaluation

By Darracotts' mind (1991) Evaluation is a summing up which places the work in the experience of the critic in order to reveal value or worth total student's design, and help others to form an opinion.

It means that the critique should start with active listening to student's intentions to understand the process that led to the invention of that special design (seeing and listening). After this critic gives verbal account of what one sees and responds to the design. By this the students will understand what others realize from their design and compare it with their intentions (description). Then the critic shall seize upon some strain that is actually there, and bring it forth with such clearness that the reader has a new clue and guide in his own experience. In architecture jury, analysis may consist of discussing how different elements reinforce the student's concepts (analysis). Interpretation helps to explain the meaning of the work, forms or style, based upon the critic's own beliefs, culture and values. Interpretation may also include the critic's emotional or intuitive response to the work (interpretation). The criticism should offer suggestions for future design decision to inform the student.

Attoe (1978) believes that the ends of criticism should be a beginning. If criticism does not have a forward looking it will be of little use and in fact of only passing interest (guidance). Graham (2003) expresses that the stage of evaluation should not occur during a public situation of a jury for a few reasons. First of all, if the purpose of a jury is to be focused upon a discourse between faculty and students, the

misconception that a jury evaluates a student's project should be eradicated by not allowing a verbal evaluation to be a component of the verbal criticism a student receives during a jury. Second of all, instructors admit that a critique of students' work in a jury happens too quickly and spontaneously to adequately evaluate the students project.

2.7 THE EDUCATIONAL VALUE OF CRITIQUE SESSION

In discussing the critique session the important beginning would be to address its purposes, objectives and educational values. Several studies attempted to answer these questions (Anthony 1987; Anthony 1991; Graham 2003; Liozor 2006; Sara 2004). In general terms, they all agree on certain characteristics that should represent a paradigm of educational values for any jury process. The main educational value of the critique session lies in enabling students to acquire effective knowledge of solving architectural or urban problems while offering them sufficient framework of guidance, either to complete their projects and that is the case of interim juries or to consider such a knowledge in future projects and that is the case of the final juries (Salama 2010). Anthony (1987) argues that the critique should be seen as a tool that fosters the refinement of the learning process as well as in measuring the acquisition and application of knowledge. The educational value of the jury system has a central position in the learning process. However, it has been heavily criticized on many grounds (Salama 1995).

In 1993 at Harvard University, a round table discussion was organized to debate the purpose of the critique sessions and jury (Dilnot et al. 1993). In this debate, participating faculty members agreed that the purpose of critique should not be to pass judgment on the students or to evaluate their design work. In essence, they perceived critique sessions as opportunity for developing theoretical discourses for ideas to thrive utilizing the work of students as a catalyst for discussion (Dilnot et al. 1993).

In fact, one can infer from literature and from Harvard's roundtable discussions two important points, the first is that 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. Arguably and in optimistic terms, the aim of the critique sessions as educational tool can be exemplified by the following four purposes:

1. Introduce constructive criticism of the students' designs, drawing the student's attention to the pros and cons of their design.
2. Provide general instruction on critical design issues that pertain to the students projects under evaluation.
3. Initiate scholarly dialogue, seminar-like exchange between faculty members, faculty members and students, and among the students themselves.
4. Measuring the degree to which a student was able to acquire and apply knowledge in the form of a design solution in response to a hypothetical or real-life architectural or urban problem.

Notably, these purposes intend to further the student's intellectual growth. However, the literature points out to the fact that typical jury practices in many schools of architecture worldwide were not able to address these purposes efficiently and effectively (Salama 2010).

In this context, two aspects appear behind the shortcomings of critique 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. Anthony (1991); Boyer & Mitgang (1996); Sara (2004); Wilkins (2000) all argue that the physical seating arrangements of the critics 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.

2.8 CLASSIFICATION OF CRITIQUE SESSION IN STUDIO

Once the student has completed his or her presentation, the work is open for discussion and critique by the instructor and the class. There are different types of design studio applications which can be implemented by the supervisor of design studio. These applications are categorized into five groups according to the critic style and given possibilities to the student to be creative and productive (Kurt 2009).

Figure 2.2 shows crit type one, there are eight or twelve students in each group. Students are obliged to take crit from studio supervisor for their design work which studied outside of the studio environment. They sit around a big desk as seen in figure.

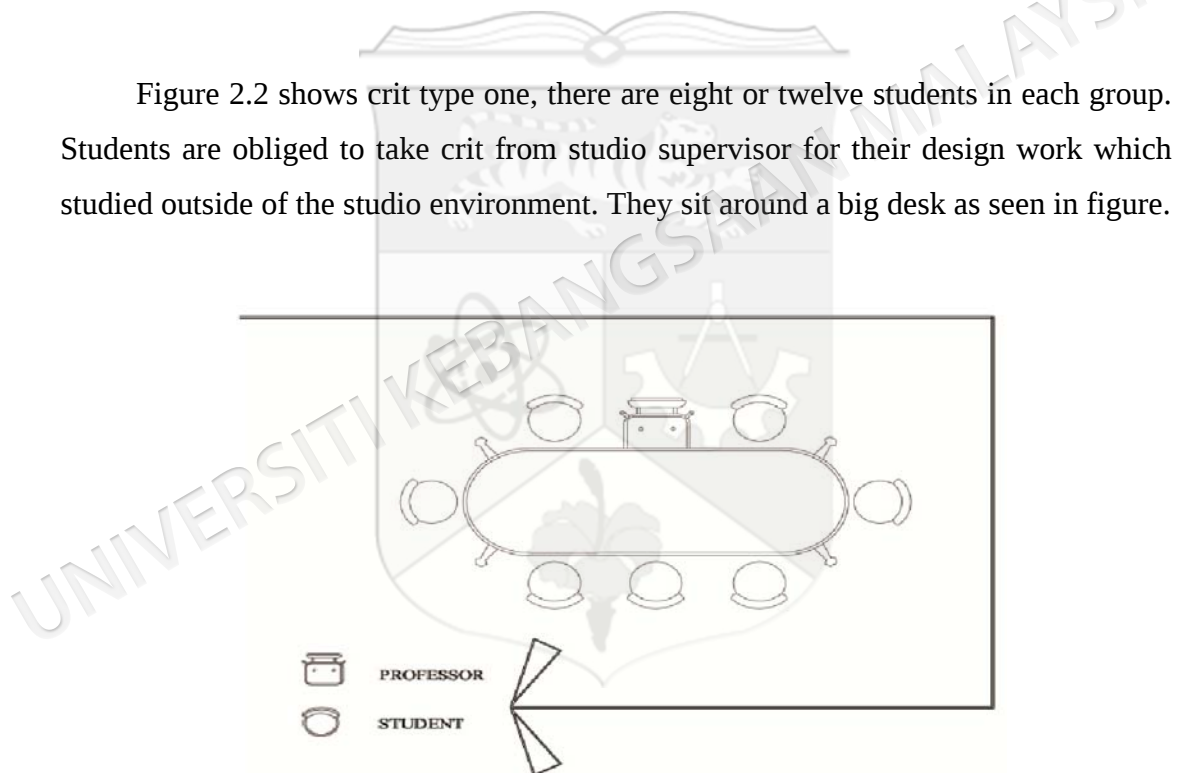


Figure 2.2 Critique session type one

Frequently the professor manages the discussion so the participation of the students is limited; the communication is under the control of the supervisor.

Strength point of this type is that all of the students can listen to their peer's critics, and have an opportunity and possibility to participate in the discussions. Preliminary jury and final jury system is implemented and being supervisor based is

its weak point because teaching occurs more than learning. Figure 2.3 shows crit type two, there are eight or twelve students in each group.

Students are obliged to take crit from the studio supervisor for their design work studied inside and outside of the studio environment (Kurt 2009). They are supposed to study their own desks. The studio supervisor gives desk critics, answers questions individually. No discussion takes place in these studios.

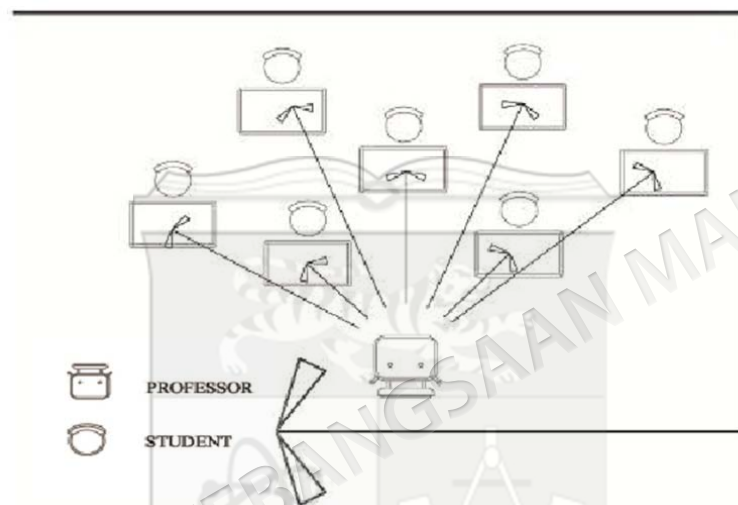


Figure 2.3 Critique session type two

Strength point of this type is that all of the students can work in design studio during the studio hours. Preliminary jury and final jury system is implemented. Lack of enough collaboration and participation in the studio practice is its weak point.

Figure 2.4 shows crit type three that the studio work has to be done by a group of students under the supervision of a group of professors. Each professor gives advice to a different student at his desk. Thus each student can have different point of view by taking crits from different professors.

Generally, there can't be any class discussion. Each student has to construct his own solution to the specific design problem according to the given advice and recommendations. Strength point of this type is that each student can get crit from

different supervisors. Preliminary jury and final jury system is implemented. Lack of enough collaboration and participation in the studio practice is its weak point.

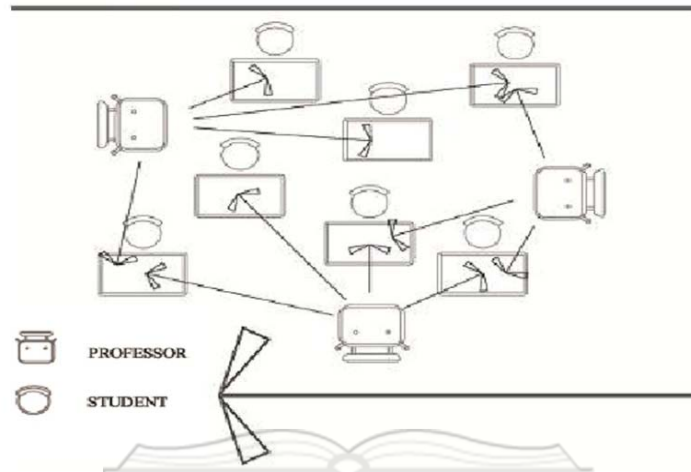


Figure 2.4 Critique session type three

Figure 2.5 shows a frequent jury system in the studio teaching. A group of professors who are responsible for different student groups come together regularly in the juries. Common jury discussions will be held.

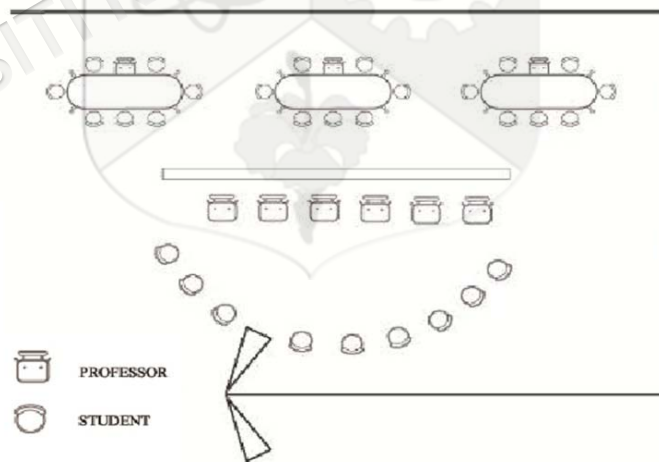


Figure 2.5 Critique session type four

Strength point of this type is that even though it is limited, there are opportunities and possibilities of discussion and participation in the studio environment throughout the juries. As a weak point we can mention being supervisor-centered. During desk critics, students are supposed to study individually (Kurt 2009).

Figure 2.6 reveals crit type five, a constant jury system is applied in the studio teaching concentrated studio, two or three professors manage the studio operations. The students are at the same academic level and responsible for the same project assignment.

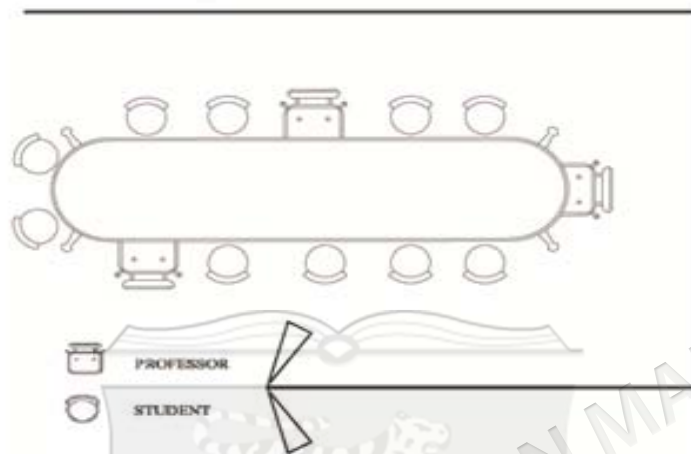


Figure 2.6 Critique session type five

2.9 CLASSIFICATION OF REVIEW IN ARCHITECTURE DESIGN STUDIO

The most 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. Attoe (1978) believes whenever the critique has imported to the final product of design, designers such as students or architects will show the defensive behavior so no effective influence will achieve.

This category involves different forms of rigorous research on the jury system in a specific context. Its major interest lies in getting feedback from those who are involved in the critique process; either faculty or students or both.

A total of nine publications can be considered under this category including the works of Anthony (1987), Anthony (1991); Frederickson (1993); Salama (1995); Groat & Ahrentzen (1996); Wilkin (2000); Al-Mogren (2006); Gurel & Potthoff

(2006). The example of studies under this category can be seen in the work of Anthony (1987) and Anthony (1991). Analyzing the different implemented critique methods in architectural schools (Uluog 2000; Lackney 2000; Webster 2006; Cikis 2009) leads to classification of the assessment tools in architectural design studios in nine categories:

1. individual critique
2. Formative critique(interim crit)
3. Summative crits(final crits)
4. Peer critique
5. Group crits (Expert crits)
6. Public critique
7. Seminars
8. Written critique: (may be online form)
9. Panel discussion

1. Individual crit:

One to one discussion between tutor and students

2. Formative crits: (interim crits)

Crits which usually take place at some interim stage during a project or module before work is submitted for summative assessment. 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 (Anthony 1991).

3. Summative crits: (final crits)

Critique sessions where a mark or grade is given for the work. Experiences show 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 or 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.

4. Peer crits:

These are 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. Peers then may give feedback to the group verbally or often through written comments given to the individual student through nameless sheets. Peers crit can be feedback given by members of the same project or module group or invited students from higher level of the course.

5. Group crits (Expert crits):

These are the most common form of crit sessions, where a group of students take part in a crit 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 group of students and tutors. Usually students 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 (Webster 2006).

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.

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.

8. Written critique: (may be online form)

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 in face to face situation. All comments can only be accessed by the individual student and tutor.

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 (Çıkı 2009).

Just as important as reviewing traditional models of evaluations is, the need to increase the use of self assessment in schools of architecture (Attoe 1978). Self assessment is related to the earlier discussion about reflection on learning. It is a form of reflection on past action. It goes beyond the analysis of past experience to include the making of judgments about one's own achievements. The idea is to help students learn how to construct and agree criteria and standards of good performance and weaknesses of their work and decide how to make improvements (Lindström 2006).

Ideally students should engage in self-assessment before receiving feedback from tutors. Peer and tutor assessment can, however, be integrated to enhance and support such self assessment processes, especially in the early undergraduate years. By engaging in self-assessment, students learn to notice and correct weakness in their work, and over time they become more independent in managing their own learning. These changes in assessment will, however, highlight the need for criteria and standards of judgment to become less mysterious and more explicit and discussible schools of architecture (Hanrahan & Isaacs 2001).

2.10 ASSESSMENT AND GRADING IN ARCHITECTURE DESIGN STUDIO

Before studying architecture assessment models, we need to find an appropriate terminology and definition to use in our investigation of assessment and grading. Since different definitions of some terms related to the discussion are used differently in different countries, and even within a single country, in different education parts, finding an appropriate terminology to use in analysis of assessment and grading is essential (Sadler 2005). For instance, assessment in some contexts in the USA refers to the evaluation of a wide range of characteristics and processes relating to higher education institutions, including entry levels, attrition rates, student services, physical learning environments and student achievements (Sadler 2005).

In the UK, assessment can mean what students submit by way of project reports, written papers and the like as distinct from what they produce under examination conditions. Similarly, a grade may refer to the classification of the level of a student's performance in an entire degree, the summary of achievement in a single degree component or the quality of a single piece of work a student submits in response to a specified task (Sadler 2005). Assessment in this research refers to the process of forming a judgement about the quality and extent of student's achievement or performance. Such judgements are mostly based on information obtained by requiring students to attempt specified tasks and submit their work to instructors or tutors for an appraisal of its quality.

As Crooks (1996) notes, assessment guides students' judgment of what is important to learn, affects their motivation and self-perceptions of competence, structures their approaches to and timing of personal study and affects the development of enduring learning strategies and skills'. Scoring and marking are used interchangeably to refer to the processes of representing student achievements by numbers or symbols. Scoring includes assigning a number to reflect the quality of a student's response to an examination item. In most cases, scoring and marking apply to items and tasks rather than to overall achievement in a whole course (Sadler 2005). Grading refers to the 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 (Sadler 2005). Grading symbols may be 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 route to the calculation of grade point averages (GPAs). The other symbols need a table of numerical equivalents.

Writings on analytical descriptions of the assessment system (Carlhian 1980; Chafee 1977; Egbert 1980; Kostof 1977; Middleton 1982) point out that the jury practice started as evaluating students' projects behind closed doors, where students were not allowed to be part of the evaluation process. This took place until the beginning of the 19th century when the Ecole Des Beaux-Arts decided to open up the system and allow students to be part of the evaluation process. Since most schools of architecture in USA continued to have one or two Paris-trained professors to make sure that the process is in the place (Esherick 1977) Ecole's model imported to all over the world.

This model basically encouraged competition between students that was intense, and the end results were beautifully drawn projects in traditional and classical styles which were often defensible only on the grounds of good taste and intuition (Anthony 1991). Evaluation criteria were based on the quality of presentation and drawings, ignoring many of the variables that influence architectural design (Kostof 1977; Salama 1995).

Although the German and Swiss models have emerged between 1910s and 1930s in Europe to replace the French model, many of the habits, mechanisms and rituals of the Ecole Des Beaux-Arts continued to exist (Esherick 1977), while influencing architectural education around the globe. There are different assessment method and grading models that designed and implemented by pioneer universities in architecture education and followed by other universities around the world. Step by step by improving the definition of education and assessment these models have improved and changed (Parnell 2000). One of these systems is comparative method. In

this appraisal model the student's projects will compare with each other. In fact jurors or the related tutors that are going to give marks in submission day, judge the quality of projects holistically then they rank the projects. Grades follow in descending form, best project to worst one. Comparing students with each other is unfair, because students are from different backgrounds and talents (Salama 2007).

Students deserve to be graded on the basis of the quality of their work alone, uncontaminated by reference to how other students in the studio perform on the same or equivalent tasks, and without regard to each student's previous level of performance (Sadler 2005; Rust 2003). In comparative system, the holistically attitude to the projects judgment leads to neglect student's creativity and abilities in some contexts. Students can't be aware of their weak and strong points and by this way they can't do any effort to increase their marks and just lucky students who are skillful in graphic design are able to impact jurors for better grades. On the other hand making pair-wise comparisons just among small set of students submissions is possible.

It will be very difficult in large amount of projects and students. In recent years, universities have made explicit overtures towards criteria-based grading and reporting. Under these models, grades are required to evaluate student's achievement in fulfilling juror's expectations. These expectations can be explain in different form. We name these expectations as course objectives. The objectives are assumed to provide the basis for the criteria, but exactly what the criteria are is in essence left undefined (Sadler 2005).

These objectives should be known by instructors, students and especially external jurors. Because invited jurors have their certain tendency and assumed objectives that would be the base of their grading. This incoherency may lead to variant in given marks by different instructors and students dissatisfaction. One of the implemented methods under this way is grading system base on marking forms. These grading criteria sheets (Montgomery 2002) typically do not map in any simple way into course objectives. They are scoring rubrics which shows some tasks and their marks portion. These tasks outline some of the knowledge and skills students ideally should be able to exhibit by the end of the course. For instance, 3D model and

executive details, boards, oral presentation as tasks and 5 mark for each of them. The given mark is based on the quality of presented documentation. This holistic method cannot explain about the expected details in each task and will leave the doors open to enter the personal opinions and subjective decisions in evaluation. An underlying difficulty is that the quality of performance in a course, judged holistically on the basis of the quality of work submitted, may not be determinable well with the attainment of course objectives.

Along with assessment systems and grading models, Students deserve to know which of their works and under what type of criteria will be assessed (Brooker et al. 1998). This will enable students to shape their work appropriately during the design process and specifying the bases for grading help to provide a logic principle for grading judgments after they have been made and the results given back to the students.

Assessment should not seen as something separable from instruction, administered at the end of the learning process, but also as a powerful tool for promoting deep learning activities. Each of the assessments is important, those that are occur in daily classroom interactions, those set by teachers at the end of particular phase in the work, and those developed and administered by external jurors.

2.11 GENERAL RATIONALE FOR DESIGNING ASSESSMENT

Researchers in early of 1970 (Miller 1974) found that unexpectedly, what influenced students most was not the teaching but the assessment. Students described all aspects of their study; what they attended to, how much work they did and how they went about their studying to be completely dominated by the way they perceived the demands of the assessment system. Rowntree (1987) stated that “if we wish to discover the truth about an educational system, we must first look to its assessment procedures”. Also done researches (Cameron 2002; Anthony 1991; Al-Mogren 2006) show that architecture students are worry about their grades insofar as they won’t attend in discussions if they think their comments will affect grades and with small negative comments or finding fault in their project they get disappointed and loose

other statements and suggestions coming after (Anthony 1987). In studio based educating systems such as architecture studios, we can find different assessment method and grading models, which their principles may deduced from either the policy document or from accepted practice.

The choice of possible types of assessment is extensive, but still is vague and complicated (Monrgomery 2002). It is obvious that in all grading models transforming students work to marks, grades or scores is very difficult because whenever the projects encoded with symbols the connection between course objectives and projects has broken and after that just the grade exists and can show the student's success amount (Walvoord 1998). This has lead to do many efforts to define and implement some norms and criteria in appraisal methods (Salama 2005). Reliability, alignment with learning objectives, integration, and practicality are issues that should be considered in the design of assessment (Canon et al. 2003).

1. Reliability

Reliable assessment is one that is seen to be objective, fairly administered, and consistently marked (Canon et al. 2003). This means that an assessment task should be reproducible. This can be problematic in skills assessment, where a degree of subjectivity is often involved in the assessment process. Of course, subjectivity is also an issue in traditional assessment forms, where different juries may award different grades for the same work.

However, in assessing the appropriate demonstration of skills marker subjectivity is, perhaps, an even greater problem (Hewitt 2007). For instance, if students are asked to show their ideas by developing and presenting a convincing process, individual jurors may be more or less convinced according to their own assumptions about oral presentation style, developing methods, and the nature of professional product.

2. Alignment with Learning Objectives

An important pedagogical aim of assessment of skills is to assess student competency levels within those skills. In order to fulfill this objective, assessment must be aligned

with the learning objective of mastering practical skills. Assessment must be carefully structured to avoid excessive emphasis on the technical abilities (Hewitt 2007).

3. *Integration*

In the context of a problem-based curriculum, integrated assessment can operate as an effective tool for learning (Gijbels 2005). A properly integrated assessment structure can also help create or maintain an authentic environment in which to practice relevant professional skills, thereby increasing the perceived relevance of the skills, (Gijbels 2005) and assisting student retention of knowledge. If an experience seems real, the beneficial effects on students are likely to be several. Students have more interest and better motivated to learn. They pay more attention and tend to learn things in a deeper level (Hewitt 2007).

4. *Practicality*

Any assessment method must be practical; the costs, time and resource demands of the assessment must be such that they can be accommodated by the relevant institution and academic staff. Questions relevant to the issue of practicality are:

- Can the assessment results be accurately interpreted?
- Does the assessment scheme demand too much time?

2.12 CRITERIA BASED GRADING MODELS

Despite the broad desirability of criteria-based grading in educating systems to implement these methods and ways, there are different conceptions of what it means in theory and practice. This has inhabited high-quality discourse, research and development of grading system in architecture education. Since criteria are attributes or rules that are useful as levers for making judgments, it is useful to have a general definition of what criterion is. There are many meanings for criterion (plural criteria) but many of them have overlap. Here is a working dictionary style definition, verbatim from Sadler (1987), which is appropriate to this discussion and broadly consistent with ordinary usage (Sadler 2002). Criterion (n): a distinguishing property or characteristic of anything, by which its quality can be judged or estimated, or by

which a decision or classification may be made. (Etymology: from Greek verb *kriterion*: a means for judging). There are at least three grading models implemented by universities (Biggs 1999) which are criteria based. These methods are:

- 1- Verbal grade description,
- 2- Objective achievement,
- 3- Qualitative criteria

Grading models may be designed to apply to whole course or alternatively on specific assessment tasks and some can be appropriate for both (Sadler 2005). For all grading models explained below, the interpretation of criteria is same with the general definition given above and all of them to make a clear connection between the achievements of course objectives and given grades, without reference to other student achievements.

1. Verbal grade description

In this model, grades are based on student's achievement to the course objectives. As figure 2.7 reveals in this form, the given grades are base on interpretations which clarify the attainment amount of course objectives. This kind of grading method is based on holistically attitude in evaluations (Sadler 2005).

Grades	Interpretation
A	Clear attainment of all course objectives, showing complete and comprehensive understanding of the course content, with development or relevant skills and intellectual initiative to an extremely high level.
B	Substantial attainment of most course objectives, showing a high level of understanding of the course content, with development of relevant analytical and interpretive skills to a high level.
C	Sound attainment of some major course objectives, with understanding of most of the basic course content and development of relevant skills to a satisfactory level.
D	Some attainment of a range of course objectives, showing a basic understanding of course content with development of relevant skills

Figure 2.7 Generic qualitative descriptions for each grade

2. Objective achievements

As figure 2.8 shows in this form the course objectives will be portioned into major and minor and the achievement of each can be determined by yes or no and the achievements of each objective will be computed (Sadler 2005).

Grades	Major objectives achieved	Minor objectives achieved
A	ALL	ALL
B	ALL	MOST
C	MOST	SOME
D	SOME	SOME
E	FEW OR NONE	FEW OR NONE

Figure 2.8 Achievement of objectives

Both of these two objective base models make clear connections between the attachments of course objectives and the grades awarded but students can't easily see close connection between the course objectives and assessment items but they are not in strong position to judge how much they reached to the objectives. Therefore these types of models have little prospective value for students.

Also there are no indications of whether given grades are for attainment in objectives of a special task or for whole objectives and it will be assessed by its own or in combination to other objectives. Most educational outcomes and attainments amount cannot be assessed as dichotomous states like yes or no or zero and one, because learning is a continuous process that in contrast with discrete scales it can just be divided into segments satisfactory and dissatisfactory(Sadler 2005).

3. Qualitative criteria

Teachers specify the qualitative properties as criteria to be closer to teaching and learning and assessment grading. In this method teachers are obliged to make a

judgment about the quality of student responses to each assessment task and objectives. Examples of such criteria are as follows (Sadler 2005):

- Relevance
- Validity
- Organization
- Presentation

In this model the grades are given in simple verbal scale for each task such as poor, acceptable, good and excellent. But since in reality student's works are not perfect and there are different descriptions for these verbal scales and some teachers believe that excellent and A is just for god and no one deserve grade A, the distribution of grades and marks can't be appropriate (Sadler 2005). In this model scores in different assessment tasks are added together and finally the 100 point scale may divided into segments according to the number of grades.

All aforementioned methods have weak and strong points. For instance, first model has tried to avoid dispersion of interpretations for grades between different assessors which can affect the given marks. But there is no room for expected objectives and their definitions in design process and final projects. So doors of subjective judgment will be still open. Second model is based on dividing the expected objectives into major and minor and the evaluation is completely related to the student's achievements to these objectives but as mentioned before it is not possible to judge about the attainments and achievements in continuum process just by yes or no. In third form by introducing tasks as criteria for grading and verbal definitions for students achievements amount has improved two previous models but objectives and importance amount of them are still unclear for students and external assessors. So we have to hybrid these methods to reach the improved model.

2.13 PLACEMENT OF THESIS

It is widely acknowledged that there is a lack of research on architectural education, design studio teaching practices, and architectural design juries. However, a

considerable number of valuable writings on the architectural jury system and design review processes have emerged since the mid eighties. They were introduced to the academic community in architecture and its allied fields to discuss merits and demerits of the jury system while exploring its underlying communication mechanisms and suggesting possible ways of improving current critique and assessment models.

The three classical writings of Schon (1984); Schon (1985); Schon (1987); Anthony (1987); Anthony (1991); Dutton (1987) appear to be the most cited and influential with a strong impact on the publications of others. In essence, all publications offer insights toward a better understanding of the learning process and of assessing students' performance thereby deserving some form of investigation.

A total of twenty nine publications on the critique and jury system and design review processes were identified and have shown in figure 2.9. The publications identified include those that are published in English only. In this respect, the authors note the work of Necdet Teymur of Turkey, Doris Kowaltowski of Brazil, Ashraf Salama of Egypt, and Ahmad Bakarman and Abdul Aziz Al Mogren of Saudi Arabia. Moreover, the publications that address the critique system in virtual or digital studios are not included in the selection.

While such publications attempt to relate virtual or online critique sessions to some aspects found in real life critique and juries, the typical characteristics of the communication process in real-life juries are very different. Examining the twenty nine publications reveals three categories of studies: students and faculty surveys, questionnaires, observations and experience based case.

Noticeably, out of the twenty nine publications none of those publications are written by Malaysian specifically in critique session or assessment with the attempt of evaluating aspects of students' performance and jury practices in Malaysia. This in essence, supports the initial claim of this research which is lack of studies on this topic in Malaysia. In experienced based analysis and positional recommendations articles do not involve any form of research neither students or faculty surveys nor case

studies, they offer critical analyses and positional recommendations based on experiencing jury practices either as a student or an educator.

Figure 2.9 Number of publication in context of critique sessions

A total of nine articles can be considered under this category including the works of Frederickson (1993); Willenbrock (1991); Ahrentzen & Anthony (1993); Vowles (2000); Farivarshadri 2000; Koch et al. (2002); Anthony (2001); Cameron (2003); Sara (2004).

An example of articles under this category is the work of Willenbrock (1991) in an undergraduate voice in architectural education. Willenbrock describes the jury review system as a tool of suppression and outlines the experiences as an undergraduate student, how students got enrolled in architecture, and the practices experienced in learning design in the studio. Her approach is to offer reflection and critique on studio teaching practices through experiencing them. Another example of the publications underlying this category can be seen in the work of Sara (2004) in her article the review Process. Sara's work appears to be optimistic and offers a guide that is aimed at design studio faculty and visiting critics involved in review or jury processes, highlighting inherent opportunities and problems of the established jury model. In case of experienced based cases studies, researches developed by an educator whose concern is to relate the literature and his experience to a specific case

in a specific context. Five publications can be considered under this category including the works of Dutton (1987); Jones (1996); Parnell (2000); Salama (2005); Liozor (2006). The investigation of these articles reveals that the case adopted and linked to the literature can be articulated through one or two modes:

- a) Some conceptual understanding of pedagogical or communication concepts and these are evident in the work of Dutton (1987).
- b) Through a type of experimentation as evident in the work of Parnell (2000).

The other three articles have overlaps where the cases presented rely on pedagogical or communication theories as well as experimentation in a studio or a jury process. In case of student and faculty survey, this research's most interest lies in getting feedback from those who are involved in the jury process, either students or faculty members. A total of nine publications can be considered under this category including the works of Anthony (1987); Anthony (1991); Frederickson (1993); Salama (1995); Groat & Ahrentzen (1998); Wilkin (2000); Al-Mogren (2006); Gurel & Potthoff (2006). The example of studies under this category can be seen in the work of Anthony (1987) and Anthony (1991). Anthony, in her article *Private Reactions to public criticism followed by design juries on trial: the renaissance of the Studio*, reports the results of investigation on the effectiveness of design juries. She examines the educational value of juries, both interim and final. Anthony's approach relies on systematic behavioral observations, interviews, and questionnaires.

Some of characteristics of done researches are being sectional in terms of time for all surveys and observations; it means that there is no cycle for recording the obtained data and results. Used methods and models in each research and investigation are distinct and no aggregate and comprehensive results. Moreover all done researches are concentrated on quantitative aspect and qualitative considerations are neglected. On the other hand all researchers are working on specific parts of critique sessions like juries or desk critiques, and there is a sever lack of researches and investigations on cycle of the whole process of critique from one to one to juries and different aspects of these sessions like comments , assessment and grading.

Notably, there is a lack of research in using combination of all aforementioned models such as observational, questionnaire and interviewed based, experimental model altogether to reach more comprehensive analysis and results and tracing better outlook and perspective of critique sessions. On the other hand neglecting the critique sessions as nonlinear process have led to sectional researches that need to be expanded to whole process from desk critique to final submissions. Grading and assessment also are the unregarded part of critique sessions and juries which needs to put under scrutiny.

2.14 CHAPTER SUMMARY

This chapter presents the descriptions, models, characteristics, advantages and disadvantages of the currently available and most commonly used critique sessions, in architecture design studios. Various studies and researches that have been used to address the explicit evaluation and assessment are also reviewed. A comprehensive analysis of the assessment and grading and agreed assessment criteria or objectives can be helpful to overcome arbitrariness, inconsistency, or subjectivity during the assessment process is also presented.

Based on an extensive literature review on the educational value of the critique session and the embedded communication processes, similar problems have been identified across all the domains of investigation. It is generally agreed that the critique is supposed to further and enhance the student's intellectual growth through constructive criticism that clarifies the pros and cons of the students design and expand on the critical design issues that pertain to the project in question, in addition to the evaluation of how much knowledge has been acquired and how successful it was applied in the proposed design scheme. All such activities should be undertaken in an environment that facilitates communicating and exchanging scholarly thoughts and knowledge between faculty members and students.

CHAPTER III

METHODOLOGY AND PROCEDURES

3.1 INTRODUCTION

This chapter describes the general methodological approach that was used for this study. It explains the reasons why qualitative research was a necessary methodology to use and what epistemological and theoretical perspectives helped frame the study. The selection of the appropriate methodologies was based on the type of data being sought; live experiences, voices and perspectives. In this chapter, the phenomenology as a qualitative methodology (which is consistent with this research's methodological and theoretical perspectives), introduce the participants in the study, describe the physical context of the design studio for second year design studio students in two years, discuss the methods used for data collection and analysis. The first phase of this chapter outlines the method for a study to measure teacher and student perceptions of criticism in the design studio. The measurement strategy employed to collect data in this research was surveyed questionnaire and interview.

First, a qualitative study of professor's intentions during critiques given in the study was conducted using interviews. Second, feedback received from the teacher interviews was used to create a questionnaire to be distributed to second year architecture students. The questionnaire was used to determine student perspectives on critique sessions in the design studio. In the second phase a one to one interview with students used to investigate in students' expectations, goals and perceptions of grading model. Then will study the implemented project assessment models and how they accommodate to characteristics of the authentic assessment model. Then a framework for project grading will be introduced and finally to investigate the consequence of implanting introduces criteria based assessment will introduce the current criteria

based assessment model in the department of architecture of university Kebangsaan Malaysia as a case study and will analyze its quality and significance by distributing questionnaires. Final suggestions from analyzes could be the limitation of this study.

3.2 WHY QUALITATIVE RESEARCH?

This section will describe why a qualitative methodology is important same as quantitative methodology and both are necessary for this research. The design studio is an environment in which subjectivity is at the center of its functioning (Anthony 1991). This can be seen, for example, in reviews where instructors from different backgrounds can give students differing feedback. Also, students are able to give peers their personal feedback. The differing perceptions of each individual are therefore emphasized, and these reviewers can agree to disagree in most cases. Another example of this subjectivity is exhibited in the grading systems. In fact, it is very rare to see grading systems that are fixed, especially since there are several factors to take into consideration when grading, such as process, product, presentation, passion, and even persistence throughout a project. This is not to say that design studio instructors do not have rubrics, but rubrics that are used are extremely multidimensional. This research takes the stance that instructors are as unique as students, especially after coming to an understanding of how the brain works and also how social constructivism can be understood through the research on the brain (Caine &Caine 1997; Sylvester 1995; Zull 2002).

To understand the role that social constructivism plays in the design studio, a qualitative strategy was very appropriate to aid in the understanding of the learning experiences that the participants have in this setting (Taylor & Bogdan 1998) or how people understand, order and frame their everyday experiences. Qualitative researchers try to understand how people see things (Taylor & Bogdan 1998). In this study the qualitative analysis helps to answer the main question of this research which is “how do particular architecture students in a second year design studio describe their experiences in crit sessions in whole year design studio at university Kebangsaan Malaysia?” Therefore, the obtained results from students and tutors interview

described in detail and in specific categories to understand how students and instructors understand and expect the experience of critique sessions.

3.3 ACTION RESEARCH

Typically, action research is undertaken in a school setting. It is a reflective process that allows for inquiry and discussion as components of the research. Often, action research is a collaborative activity among colleagues searching for solutions to everyday, real problems experienced in schools or looking for ways to improve instruction and increase student achievement. Rather than dealing with the theoretical, action research allows practitioners to address those concerns that are closest to them, ones over which they can exhibit some influence and make change. Practitioners are responsible for making more and more decisions in the operations of schools, and they are being held publicly accountable for student achievement results. The process of action research assists educators in assessing needs, documenting the steps of inquiry, analyzing data and making informed decisions that can lead to desired outcomes. Action research is a process in which participants examine their own educational practice systematically and carefully, using the techniques of research. It is based on the following assumptions: (Watts 1985)

- Teachers and principals work best on problems they have identified for themselves
- Teachers and principals become more effective when encouraged to examine and assess their own work and then consider ways of working differently
- Teachers and principals help each other by working collaboratively
- Working with colleagues helps instructors in their professional development

According to the experts, it is a cycle of posing questions, gathering data, reflection and deciding on a course of action. Miller (2007) describes it as a process of planning, action and searching and Learning point. (McFarland & Stansell 1993) defines it as inquiry or research in the context of focused efforts to improve the quality of an organization and its performance. It is a cyclical process that starts with a problem then potential solution would be designed and then an action would be taken

on the solution, then the reflection would take place on the results and finally the learning would be captured. This process would be repeated many times again and again.

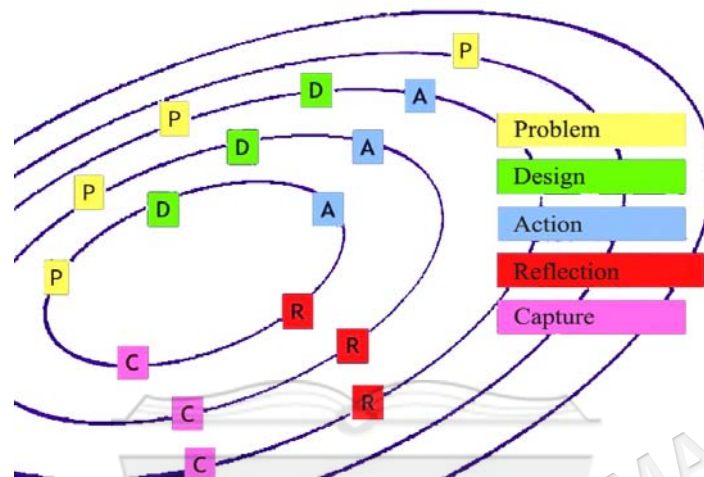


Figure 3.1 cycle of action research (Source: Noffke & Stevenson 1995)

Action research requires reframing the problem by looking at it in different contexts and different perspectives as a part of larger system and making comparisons and applying the problem to different groups. As the plan implemented the progress needs to be controlled and the data and evidence needs to be collected to present periodic reports. Another essential element of action research is reflection. A cycle of action and reflection is the heart of action learning.

Reflection is a process of entering into dialogue based on the data collected and being guided by a systematic framework to discover the root causes of the organization's program. Action research is not a library project where we learn more about a topic that interests us. Action research is not about doing research on or about people, or finding all available information on a topic looking for the correct answers. It involves people working to improve their skills, techniques, and strategies. Action research is not about learning why we do certain things, but rather how we can do things better. It is about how we can change our instruction to impact students.

In this study based on the obtained responses from students and instructors in the first phase of research some problems were found and specific recommendations

were presented and implemented to the design studio which was our case study. Then the observations and feedbacks have recorded and periodic reports conducted and finally the live experience leaded us to recommendations that presented in the final step of research. Same process took place for two different groups of students in two different batches to have suitable interpreted data and generate a reliable report with meaningful information.

3.4 CASE STUDY

As part of 29 researches which were discussed in chapter two, there were three researches that they were conducted in recent years and their methodology and field of study were close to this research scope and their methodologies were merged together to have comprehensive investigation and results. These three studies would be introduced based on the year in following paragraphs.

A research has done by Graham (2003) at architecture department of Louisiana State University to explore the use of criticism in the landscape architectural design studio. She used two approaches to develop an understanding of criticism as a pedagogical tool in the design studio. The first step explores the intentions of critique used by design instructors during desk crits and juries and second step explores the students' perceptions of the criticism they receive during desk crits and juries. The findings from both the faculty and students compared. The measurement strategy employed to collect data in this research was survey questionnaire. In addition, personal interviews of design studio instructors were conducted. In total, one hundred and two questionnaires were distributed forty four questionnaire has returned.

Lueth (2003) at architecture department of Iowa State University has done a qualitative exploration on architecture design student learning experiences in design studios from first- through fourth-year. Five students included three male and two females as the case study. The other research that has conducted at architecture department at Manitoba University is investigation of criticism in architecture, totally twenty four students were participants of the investigation and there were under observation for one year (Dozois 2001). A research has done in Egypt, four

universities attended in this research (Cairo University, Al Azhar University, Ain Shams University and Helwan University) on students' perception of the architecture design jury from 2008 to 2010 (Salama 2010). The used method was based on distributing questionnaire among students. They distributed 1150 questionnaire and just 200 has returned. The chosen participants were among all year students and analyses are unclassified. The future work of this research proposes a detailed research among different year students for more clarification.

The important among all of these researches is that in all of them there is just a research which leads to some recommendations and there is no testing after all. So it seems that there is a need to an action research to complete the cycle of improvement. This thesis is kind of action research which limited to second year architecture students at Universiti Kebangsaan Malaysia. The reason to choose second year architecture students is that in this step they are not expert enough in managing their project base on critique and receiving and giving comments.

In this step they are trying to make experiences by iterating their design process under supervision of their studio masters. First and third year students perceive the review as a sound forum for promoting and learning about the client and user issues, though second year students tended to become more skeptical. For a qualitative investigation we chose two different intakes of 2010-2011 and 2011-2012, which were two groups of twenty three students. The study will include both male and female students (sixty percent female, forty percent male).

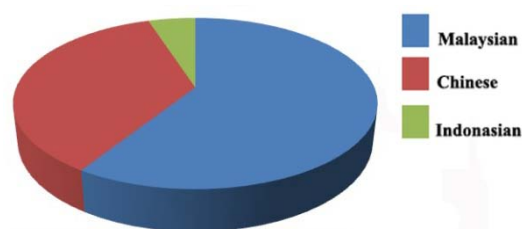


Figure 3.2 Distribution of students' races

The majority of students (fifty nine percent) were Malay and thirty six percent were Chinese and five percent were Indonesian, and all of them except two were citizens of Malaysia.

3.5 PHASE ONE: QUALITATIVE STUDY

This phase intends to evaluate crit sessions as an assessment tool in architecture education and explore the effectiveness of implemented models from students and teachers perspective and evaluate current appraisal model and improvement of current framework to achieve better critique sessions and assessment model as well. Two methods of data collection were applied; questionnaire and interview. The questionnaire which was contained open-ended questions and some Likert measurement scale and some multiple choices.

3.5.1 Instructor Interview and Questionnaires

Invitations for personal interview were distributed among twelve instructors and tutors in architecture department of Universiti Kebangsaan Malaysia and five were convinced to participate. Moreover, Prof. Dr. M. Tajuddin as a senior persona accepted our invitation to share his long experience in academic. His participation was a good opportunity to exemplify best teaching experience in Malaysia.

Five out of the six interviewees were male. The scope of instructors interviewed was limited to instructors teaching studio classes with more than 7 years experience in academic and practice. The questionnaire and interview focused on all types of criticism which discussed in previous chapters and were employed in a design studio, the desk crit and jury etc. (Appendix B and C have presented interview questions and questionnaire questions). The interviews took the form of a conversation, creating a participant-led interview process.

Seidman (1991) stated that, the in-depth interview is designed to ask participants to reconstruct their experience and to explore their meaning. Open-ended questions used intentionally during interviewing participants in this study. After some preliminary questions were asked in the first interviews, even more open-ended questions were derived based on preliminary data or themes, as suggested by Chirban (1996). This interview format also helped in the data analysis process because this thesis used the protocol that Seidman (1991) suggested which included three different

focuses;(a) The life story of the participant; (b) the concrete details of the participants' present experience (Seidman 1991) in the design studio; and (c) reflection on the meanings of these experiences. These focuses aided the interpretation and reflection on the participants' experiences. The interviews lasted approximately 60 to 90 minutes per interview, depending on the responses of the participants, and interviews occurred within 10 days, depending on the participant's schedule in August 2010. (Appendix G presents the transcription of interviews).



Figure 3.3 Professors, Doctors and Architects involved in the Interview

As figure 3.3 shows attendant from right to left were Professor Mohd Tajuddin Mohd Rasdi, Dr. Adi Irfan Che Ani, Dr. Nik Lukman Ibrahim, Dr. Nangkula Utaberta, Ar.Nurakmal Gol Abdullah, Ar.Mastor Surat. (CVs have been presented in Appendix F). Five of six interviews took place at department of architecture, universiti Kebangsaan Malaysia on one at universiti teknologi Malaysia.

Design instructors were asked the following questions about crits goals, purpose, effectiveness, and student reactions. More specific questions were asked about juries, such as, student participation, a framework for criticism, and changes for improvement. In the creation of the interview questions as a survey research instrument, a concerted effort was made to ask questions which were not biased.

This was achieved by asking questions that did not lead or encourage the response given by instructors. The interviews were tape recorded and later transcribed by the author. The findings from the interviews were used in order to develop a questionnaire to gauge the effectiveness of criticism in the design studio and to validate instructors' intentions.

3.5.2 Student Questionnaires

Student questionnaires were distributed to all forty six students in two different batches and four semesters during 2010- 2011 and 2011-2012. The items used to collect data in the student questionnaires were based on the answers received during the earlier phase of the research, which utilized teacher interviews. The questions in the questionnaire were adopted and followed the example of Kathryn Anthony's student questionnaire in her published research in her article, private reactions to public criticism; students, faculty, and practicing architects state their views on design Juries in architectural education (Anthony 1991).

The questionnaire used for this research covered topics including; the purpose, educational goals, effectiveness, and students' reactions to both desk crits and juries. Questions were related 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 participation in a jury, and changes for improvement (Appendix A contains students' questionnaire form).

In the chosen survey research instrument of a questionnaire, a challenging effort was made to ask questions which were not biased. This was achieved in the student questionnaire by asking questions posed a scale of point between the end points of a positive and negative continuum and by asking open-ended questions, which allowed the students respond in their own words. Figure 3.4 shows some of students who attended in this survey.



Figure 3.4 Some of students who attended the survey

The questionnaire consists of twenty questions as an initial part of our research and distributed among students. Except first seven and last four open ended questions asking their thoughts on the issue, all the questions in the survey have a Likert-type attitude measurement items having five levels (Appendix A presents students' questionnaire form).

3.5.3 Data Analysis

The data collected from the teacher interviews was coded into common response categories by the author. The results were analyzed in a qualitative manner, and implications of this analysis are discussed in chapters four and five. The data collected from the student questionnaires was analyzed in both a qualitative and quantitative manner. The data collected from the student questionnaires was calculated to find percentages of students who chose each of the given answers for the close-ended questions. The data were first calculated using all forty-six student responses and separately base on gender to give a gender base analyzes.

The data collected from open-ended questions on the student questionnaire was also coded into common response categories. The results and implication of this analysis of the student questionnaire are discussed in chapters four and five. When the collected data have analyzed some suggestions were proposed and those suggestions applied to the studio during the semester and observation applied to the studio. The author was attended in the studio as a teacher assistant and has close relation to the studio and its procedure and students. At the end of each academic year the questionnaire again distributed among students to compare the satisfaction level and effectiveness of the proposed suggestions.

Likert scale	very little				very much
	1	2	3	4	5
smileys*					

* http://commons.wikimedia.org/wiki/category:tango_project/smilies.

Figure 3.5 Given smiley faces to students and their equivalent in Likert scale.

In this questionnaire students were given smiley faces to more easily explain their feeling on effectiveness of session, as figure 3.5 shows. Spaces were left after the scores for comments relating to each of the objectives. Students and tutors were asked to note anything they particularly liked about the sessions and any suggestions they might have for improving it.

3.6 PHASE TWO: DIRECT OBSERVATION

The second phase of the research intends to propose an effective and a significant framework for evaluation and grading in submission days of architecture studios. First will study the implemented project grading models and the way they accommodate to characteristics of the authentic model. Then it tries to hybrid the criteria based models policies to introduce a new framework as an appraisal model in evaluating architectural projects in universities. To reach this goal beside direct observations and interviews with tutors and students and distributing questionnaires among students have implemented.

3.6.1 Proposed Model

In recent years, universities have made explicit overtures towards criteria-based grading and reporting. Some architecture faculties or lecturers use kind of criteria based model as their grading model but it is based on their previous experience in their education period and is special to that tutor. The heterogeneous among teacher's assessment models makes the assessment difficult for invited jurors and external examiners to coordinate themselves to the system specially the time that there is not enough time to explain the rubrics and method of grading. So there is a severe need to define a well defined framework base on rubrics, requirements, expectations and objectives for architecture assessment. Different projects during architecture education is transmitting new knowledge and experience based on learned related topics, issues and projects in continues process of learning. So the aim of each project is unique to it and has different layers and due to these have a different title, scale and objectives. According to Mason & Steers (2006), teachers teaching to specific assessment criteria in the knowledge that so long as students provide clear evidence of some engagement

with the ideas and practices embedded in the criteria they are rewarded almost regardless of the actual quality of the work. In other words, when there is overreliance on criteria they act as a regulatory device through which both teaching and learning practices are normalized. As a consequence anything unusual or challenging that does not match with the particular conceptual framework of the assessment criteria is less likely to be properly rewarded (Rayment 2007). Thus this creates a tendency toward a strict orthodox pedagogic environment and inhibits creative responses.

However, both art and design as activities have room for and should allow idiosyncrasy, divergence and uniqueness and their education should not become prescriptive (Bennett 1989). In all submission days, students are required to submit certain documentation such as sheets and drawings which include plans, evaluations, sections, perspectives etc and 3D models which may determine by instructors or leave arbitrary. But these are not just the things that are going to be assessed by jurors. Primary goals that were the basis of the problem solving process are the most important part of the assessment. Expectations can be explain in different form. We name these expectations as course objectives. The objectives are assumed to provide the basis for the criteria. So the criteria to be used in assessment and grading are linked directly to the way objectives expressed (Sadler 2005).

These objectives should be known by instructors, students and especially external jurors. Because invited jurors have their certain tendency and assumed objectives that would be the base of their grading. This incoherency may lead to variant in given marks by different instructors and students dissatisfaction. The other considerable issue related with criteria-based assessment is that they can be stated ambiguously or leave space for hidden criteria to operate during assessments. Additionally, according to Rayment (2007), instructors or evaluators usually have the notion that if an activity is measured than it is noteworthy, which means that the immeasurable activities will be disregarded or in order to be able to quantify the idiosyncratic work; some superficial assessment values may be introduced. Since this approach has some conceptual parallels with the behavioral objectives movement, according to Mager (1962), a behavioral objective is not properly formulated unless it includes a statement of intent, descriptions of the final behavior desired, the conditions

under which this behavior is to be demonstrated and the minimum acceptable level of performance that signifies attainment of that objective. Defined architecture assignments, Depends on their type, scale and duration, have different objectives and expectations to assess the student's submissions and different tasks are required. These tasks are based on some practical necessity and some personal standards aligned with course objectives. These tasks will create policies for assessors to intend to take into account in judgment.

Eyeballing different evaluation sheets in variety of studios for different projects at UKM, as a case study bring us to this result that the rubric of the tasks is as follow:

1. Critical Explanation
2. Logical Development
3. Proposal and recommendation
4. Oral and Graphic Presentation

The potential number of tasks relevant to the projects is large for each rubric and task some criteria will be defined. Segregating evaluation extent to more tasks will increase student's opportunities to show their capabilities and merits and gain more chance to get better marks. But in contrast the more objectives are expressed for each task, the more they will operate isolated and will recede from the overall configuration that constitutes a unit of what the students are suppose to do. In addition it will restrict assessors between these defined borders and will confine their authority and experiences in cognition and analyzing students hidden intends in their designing. This is completely in opposition with the main target of inviting external jurors which is benefit from diversity of expert ideas and critical attitudes.

So characteristic of objectives are more effective that their numbers in defining flexible evaluation borders. Since not all criteria types' are same, there is no necessity for the number of criteria to be same in different tasks. In fact these are subtitles which are expected from students to do, in order to elaborate the borders of course objectives for assessors. For instance in table 3.1 we can see tasks with some of

their criteria which have defined by related instructor base on course objectives and implemented strategies in studio. Each of criteria is included in marking grid.

Table 3.1 Normative-Descriptive of design domain (Schon 1988)

Domain	Definition
Program	Functions of buildings or building components; uses of building or site; specification for use
Site	Features, elements, relations of the building sit
Building element	Buildings or components of building
Organization of space	Kinds f spaces and relations of spaces to one another
Form	1.Shape of building 2.Geometry 3.Marking of organizations of spaces 4.Experienced felt path of movement through spaces
Structure/ technology	Structures, technologies and processes used in building
Scale	Magnitudes of building and elements in relation to one another
Cost	Money cost of construction
Building character	Kind of building, as sign of style or mode of building
Precedent	Reference to other kinds of buildings, styles or architectural modes
Representation	Language and notations by which elements of other domains are represented
Explanation	Context of interaction between designer and others

For more clarification figure 3.6 reveals some normative description of design domain. All of these domains have rubrics and their detailed task embraces familiar connotations for graduated and expert architects. Expecting descriptive or prescriptive definitions for notions like concept, idea development, proportion, respond to the site, space and spatial integration for evaluation sheets which assessors are going to use, may seem logic in the first look. But the important point is that whether non expert architects are putting in charge of judgment in art and architecture fields in the academic and professional context.

	Fail	poor	Average	Good	Excellent	
	Little or no evidence	Beginning	developing	accomplish	exemplary	Grade
Graphic Presentation						10%
• Composition						
• Focus and explanation						
• How clear is the information						
Critical Explanation						40%
• Process & idea development						
• Detail explanation						
•						
Logical Development						30%
•						
•						
Proposal & recommendat						20%
•						
•						
Final Grade						100

Figure 3.6 Sample of evaluation sheet in UKM

Actually giving such description of these notions is in contrast to the learning procedure in the studio based learning and inviting external examiners at final

submissions. Because the experience and skills of invited juror will put aside from the appraisal process. In fact if describing and explanation for artistic categories was possible there would never be any studio and theory classes would be held instead and learning base on reflection in action would be replaced with memorizing method.

Presenting clear and explicit definition or description for artistic categories seems easy but tangibly difficult because even with convergence in concepts, there is wide divergence among approaches. For instance in describing respond to the site many elements should be considered like possibility in making connection between pedestrians and main roads, construction method, form, aesthetic and spatial integration among form of building and accesses, which are possible to analyze in an experts' mind to evaluate, judge and rank the success level of the design. Each rubric is extremely multidimensional (Schon 1998).

Each part of a designed project is a subset of the design process and success amount of each part is inseparable. If it was not like this then there would not be any concerns about critique models and evaluating artistic outcomes. The way people understand order and frame their everyday experiences and the way they see also are different (Taylor & Bogdan 1998). Instructors and jurors are as unique as students, especially after coming to an understanding of how the brain works and also how social constructivism can be understood through the research on the brain (Zull 2002).

The fact of inviting expert architectures and instructors from out of related design studio is to help students to know there are different point of views, perspectives, beliefs and approaches to same problem and give them chance to experience a condition which is taking place every day in architecture competitions and architectural offices in real practice world. On the other hand making more constrains for invited jurors in basic definitions would make the assessment time consuming and will have minimum contribution of jurors. So it is better to prepare wide boarders for the jurors not to move beyond the borders to have the innovation portion in the assessment. So it is better to just give the objectives and domains which should be considered in design and then let the jurors follow their experience and architecture language for assessment. On the other hand, according to main focus of

education process in certain period, different priorities with different attention portion will be dedicated to each objective. This kind of precedence will import to assessment criteria and evaluation sheets (Montgomery 2002). Therefore each task would have dedicated percentages to show the major and minor objectives and grade amount. Table 3.2 illustrates this type of grading model.

Table 3.2 Achievement of objectives

Grades	Major objectives achieved	Minor objectives achieved
EXEMPLARY	ALL	ALL
ACCOMPLISH	ALL	MOST
DEVELOPING	MOST	SOME
BEGGINING	SOME	SOME
NO EVIDENCE	FEW OR NONE	FEW OR NONE

Since students perform in continuous path, the result of their performance just can be revealed in continuum that can be divided between satisfactory and dissatisfactory. Student's locus this vector derives from quality of their work in response to defined criteria in each task. So it is needed to define some qualitative levels to apply as a norm to the assessment. Descriptions should have the best overall fit with the characteristics of the submitted projects. The assessor does not need to make separate decisions on a number of discrete criteria, as is usual list form. Such as little or no evidence, beginning, developing, accomplish, exemplary. Based on objective achievement model which is described in literature review chapter, objectives should be portioned into major and minor and the achievement.

Table 3.3 is a defined equivalent for descriptions no evidence, beginning, developing, accomplish and exemplary. However these descriptions are very helpful and effective in appraisal system but finally the qualitative assessment should be able to be transmitted into grades and marks. So we need to coordinate this model to one of the common grading system. As we mentioned before, using grading systems such as (1 -100) or (A, B,..) are not appropriate ways to import to criteria based assessment model because after transmitting students work to numerical grades the connection

between course objectives and grades will be completely broken. Since marks and grades do not in themselves have absolute meaning in the sense that a single isolated result can stand alone as an achievement measurement or indicator that has a universal interpretation.

Assessment and grading do not take place in a vacuum. In qualitative criteria as mentioned in chapter two, teachers are obliged to make a judgment about the quality of student responses to each assessment task and objectives. Quality of student's work together with interpretations of such judgments can be known as comprehensive model in judgments. So alternatively, a simple verbal scale could be used for each criterion such as fail, poor, average, good and excellent but in this type verbal grade description applies to given assessment task, with a separate description for each grade level as table 3.3 shown.

Table 3.3 Grading according to aggregate scores

Grade	MARKING RANGE	
EXCELLENT	90-100	
GOOD	80-89	
AVERAGE	65-79	Passing grade
POOR	50-64	Conditional pass
FAIL	49<	

Introduced model contains most of the strong points of other criteria based models and none criteria base models. These strong points are revealed in figure 3.7. So each list of criteria can be elaborated into a marking grid. Finally components of grades will be weighted before being added together to reflect their relative importance in the assessment program. There are several forms to show the final grades. The simplest is a numerical rating scale for each criterion, in which case the ratings could be added to arrive at an overall mark or grade for the work. Using numerical ranges gives the impression of precision and the system is easy to make operational. This method does not depend on ranking or sorting student's projects. It means there is no explicit

reference to other student's performance. But final grades are assigned by determining where each student stands in relation to others. Figure 3.7 reveals the specifications of proposed and implemented model to the studio.

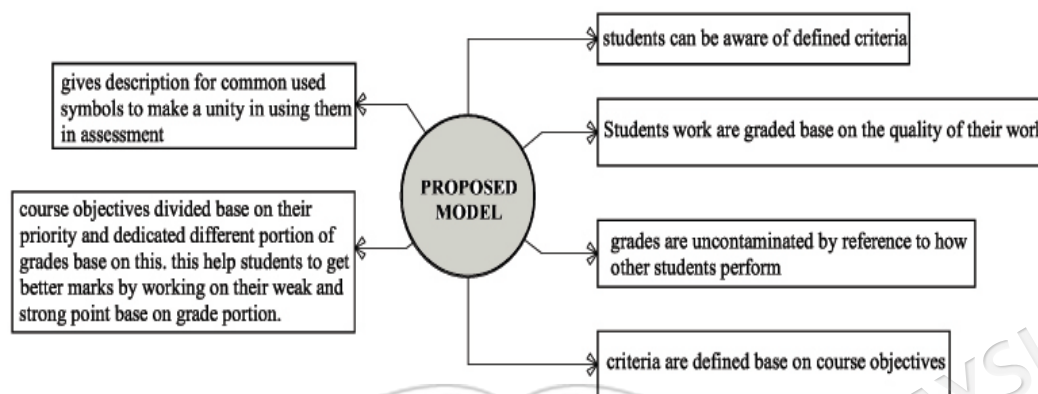


Figure 3.7 Specification of implemented method by UKM

Suggested criterion-based assessment proposed, can draw attention to the processual dimensions of creative work and articulate the tacit knowledge (Lindström 2006). In this context, we can derive that criteria-referenced assessment helps students to develop the notion that process is as important as the product. Process, in this regard, is synonymous with the ability of a student to self-evaluate oneself and to be to develop skills to tackle complicated problems in an independent and confident way. Assessment should be seen as an instrument for focusing both the instructors' and the students' attention onto qualities that foster learning.

3.6.2 Data Analysis

In order to shed light on proposed criteria based assessment model, we will investigate on criteria based assessment model which is implemented in National University of Malaysia (UKM) as case study. This university has been chosen because they addressed new form of criteria based model and it will facilitate to survey the students and instructors feeling and reactions to criteria based assessment model in a multi cultural country. To study the effect of these implemented methods on students, we formulated a survey consisting of one by one interview. A structured interview with

students has done. Since this was the second interview with them we just focused on grading models, their past experiences about grading policies and the problems of those models or strength point if they had. The process of research and analysis is shown in figure 3.8

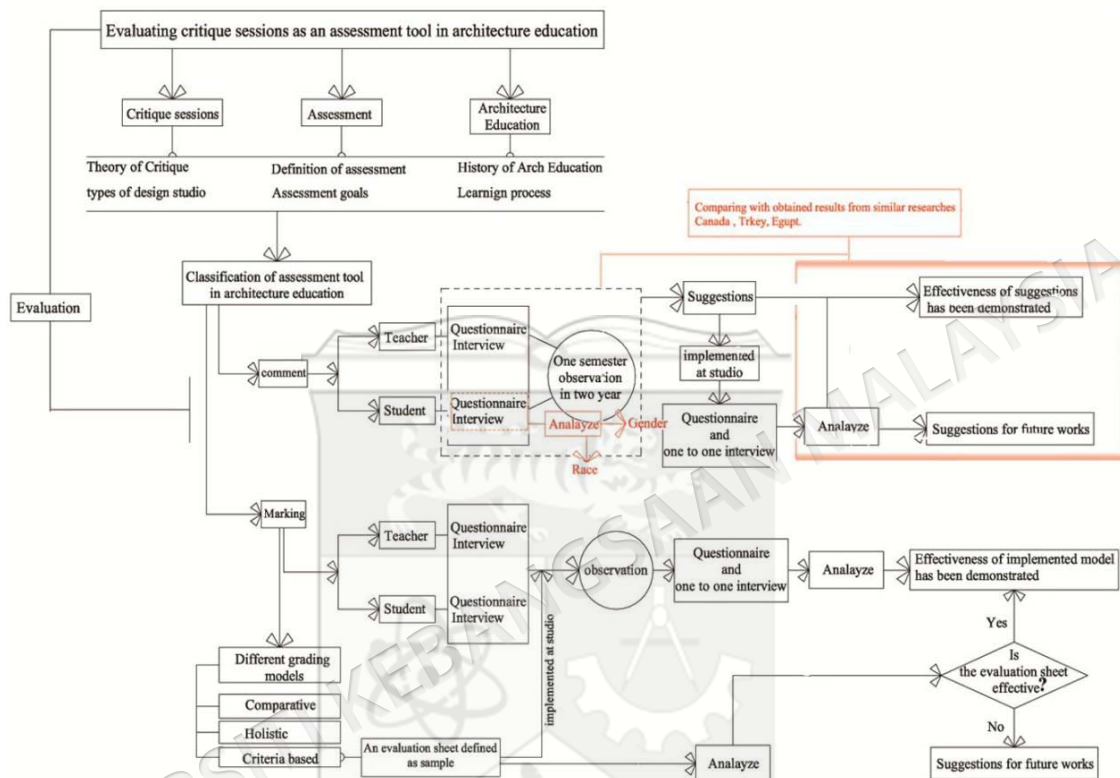


Figure 3.8 Processes of research and analysis

Also they were asked to explain about their expectations and what specification makes the assessment and grading fair and acceptable to them. In interview some questions were asked specifically about different types of grading models to prevent the redundant in students' answers. The questions in the student's survey can be categorized as follows:

- Show your satisfaction level in named assessment model: Comparing model, criteria based model, holistically grading model)
- What will make an assessment and grades fair to you?
- What will influence jurors and grades in submission days?

3.7 CHAPTER SUMMARY

To the research action reported in this thesis, a multilayered methodology is deployed. Due to lack of literature review on critique session and its pedagogical influences and evaluation and assessment use, an extensive study is conducted and new definition in format of classified information presented. To induct generalities of concerns about critique sessions broad investigation has done and three universities (Manitoba University-Canada, Louisiana University-USA and Misr International University-Egypt) which were doing researches in jury sessions have chosen as comparative study model. To increase particularities second year architecture design studio of Universiti Kebangsaan Malaysia has chosen in two batches (2010-2011 and 2011-2012) for four semesters with total number of 46 students.

Two empirical studies are carried out with the intention of investigating lecturers' and students' perceptions and expectations from critique sessions. Six Lecturers and all forty six students have responded to their specific questionnaires and interviews at the beginning of the academic year. Moreover students also filled up another questionnaire after final submissions to record their satisfaction level from implemented model. Direct observation used for whole study period which is four semester (for two different batches).

CHAPTER IV

DESCRIPTIONS OF THE FINDINGS

4.1 INTRODUCTION

The previous chapters introduced the topic being studied, highlighted the relevant literature with regard to the topic, and described the methodology that was used to conduct the study. This chapter focuses on describing the findings that address the research questions, drawing from the literature and theory that underpin the findings.

The following data was collected from interviews and questionnaire with the instructors and students of second year design studios in two different batches 2010-2011, 2011-2012 within three phases. First, will address how instructors' view on critique sessions included desk crit sessions and jury sessions, assessment and grading policies in starting point of each year.

Then the semester calendar has distributed to the studio and brief sessions for the procedure of assignments and design projects took place (Appendix E represents the semester calendars). Next, this chapter will communicate how students thought and felt about their experiences of crit sessions and jury days and assessment and grading models with the results of direct observations and periodic questionnaire which distributed to the studio students at the end of each interim and final submission.

So the obtained results would present in three phase which are phase one as qualitative study, phase two as results of direct observation in a long term investigation and phase three as results of periodic investigations (Appendix A

presents the questionnaire used periodic to measure students feeling at the end of interim or final submissions).

4.2 PHASE ONE: QUALITATIVE STUDY

At the first stage an interview and questionnaire done and distributed respectively to have a holistic view of students and instructors to the critique sessions and find the weak and strength points, realities and expectations to trace other steps.

4.2.1 Instructors' Interview

Altogether, a total of six design instructors out of twelve in architecture department of UKM had agreed to participate in the study during the week of August 16, 2010. All responses to questions were tape recorded and transcribed later. The results were then analyzed to find common categories of answers, and a brief summation of the range of answers to each individual question was created. All of these six instructors have been master of studio and specifically second year design studio. So they have valuable experience for this study.

All results are discussed in a summary format because of the quantitative method used to collect the data, and is based primarily on content analysis and the interpretations these results by the author. The following results are organized into sections, which correlated to the questions asked during each interview (Appendix C contains interview questions). The instructor interviews asked about different types of sessions they have during a year in architecture faculty of university Kebangsaan Malaysia, and they were agreed in five stages Crit, Jury, pinup, portfolio review and portfolio examination, which are described below (Interview):

Critique as an interim review of the current design program by the studio master feedback will be recorded. A guide mark will not normally be given, but if it is, it will be immoderate, will take into account any potential for development. Pinup as an informal review shows the progress and part of the studio design or tutorial process which no feedback will be recorded in it. Jury is final review of the design program

by the studio master and at least one other, who may be a guest juror. A guide mark will be given to the jurors. It will be related to cross year standards, may be changed at portfolio examination and will be for guidance only. Portfolio review defined as a review of all the work of the current academic session in the portfolio. Portfolio examination discussed as final examination of all design work in the portfolio by the current studio master and year coordinator. All guide marks given at this stage may be changed to take into account the work in the overall portfolio. No feedback will be recorded. The final mark will go to the board of examiners.

According to instructors' responses the project review provides an important context for learning from tutors in the first instance. The instructors believed that across the years, students vary in the way they utilize the review as a context for learning. For example first-year students attribute to their tutors an almost parental interest in their work, and they look to their tutors for support in helping them to access the discourse of architecture. By the third year, however, students view their tutors primarily as a source of expertise, of technical advice and guidance.

Similarly, first year students refer to the review as a chance to pick up ideas and to compare themselves with their peers in order to confirm their position as a member of the group. In contrast third year students refer to the review as a chance to test out their own ideas and to assess, either individually or as a group, the ideas of their fellows. (Interview)

A. Instructors' View on the Objectives and Purpose of a Desk Crit

First of all they asked about desk crit and its purpose. All six instructors agreed that one of the most important aspects of a desk crit is to listen to the student's design ideas in a personal, one to one environment. This allows the tutor to establish safe, nurturing environment in order to make the student feel comfortable to ask questions and express their individual design ideas. It is during a desk crit that the instructor can interact with the student to give feedback at the personal level. At the moment they need to grasp the concept and principles that are being applied in the project (interview). Four out of six instructors discussed that along with listening to students'

ideas, crit sessions make the opportunity for both students and teachers to ask some questions, teachers to get the students to learn critical thinking skills and problem solving skills, students to get the correct answer from tutors. “Instructors respond to the student, not with the right answer, but rather with a question, as one instructor stated: In respond, I mostly ask them a question back” (Prof. Dr. Tajuddin in interview). Also all of instructors mentioned that desk crit sessions are good steps to give advice to students for further development of their design process in corrects path and encourage students’ creativity.

B. Instructors’ Views on How Students React to Desk Crits

When the tutors asked about their experience on students’ reactions to desk crit, they mentioned that there is a wide range of feedback and reactions they saw during the time from different students, from negative to positive. One of the teachers commented that “This variety routs in different personality of students” (Dr. Adi Irfan Che Ani in interview).

Some design instructors pointed out that getting discouraged, disappointed, confused, or defensive are the other reactions from students. All lecturers mentioned that they do not expect students to take the advice but the intention of cit sessions is to make them think about given comments and use them to develop their own ideas.

One instructor stated: the negative reactions usually derive from students’ expectation to get the answer from the teacher. This expectations origins in their past student life, the environment which all answers in the book but they have to come up with the answer that they found it by themselves. We just can put the butter paper over their design and say things while drawing. Words do not describe what should they do but parallel designing and talking is the language of designing (Dr. Adi Irfan Che Ani in interview).

C. Instructors’ Views on the Effectiveness of crit sessions as Learning Tools

Results of the question about the effectiveness of crit sessions revealed that six out of six instructors interviewed agreed that desk crits are an effective learning tool. One of

the lecturers in the interview mentioned that: “This is the way I’ve learnt architecture and I don’t know how else the experience can be transmitted to students” (Dr. Mastor Surat in interview). The only problems discussed about the factors that directly relate to the effectiveness of desk crits was class size and the number of instructors that teach the studio. The size of the studio and the amount of attention each student receives directly relates to the effectiveness of being able to have crit to each student. Teachers will get tired in doing crit with prior students who get the chance to be the first and then teachers would lose their energy and creativity to help students.

When instructors asked about jury sessions, five out of the six instructors interviewed agreed that these sessions are good opportunity for students to gain confident and experience to present their design to others, experts or even none experts which would be their clients in future, if it held at the time when a student can present his intentions and design process and validate his design solution.

At all they mentioned some reasons as importance of such sessions: Firstly, it would be the time to build up their verbal and graphical skills. Secondly, they have the chance to present their intentions and what and why they made special decision in their design process and receive comments from experts. One of the tutors said: I think the answer is probably both (learning opportunity and assessment point). It depends on how a particular presentation is being used in that particular project or at a particular stage in the project and so it might be more biased towards assessment (Interview).

The other instructors mentioned that students want the jury to discuss about their work and their success amount in reaching to best answer. It means they expect to tell them how well or bad they did their design (Interview). Three of six instructors believed that the jury sessions would be more effective as a learning tool when the jury also become a discourse session that all of students can benefit from the session and comments.

One of the tutors mentioned that he sees more benefit in the type of jury sessions which evaluate students design and gives feedback on what had worked and what

didn't and make the session as dialogue (Interview). One of the interviewed instructors believed that the final evaluation would be done after that students left the class. Student should use what either learned or they don't, at this definitive session. The grade would be another step (Dr. Mastor Surat in interview).

D. Instructors' Views on Use of Framework in crit sessions

The instructors were asked about the use of frame work in crit sessions, and all of them commented that the given comments are spontaneous and depends to the designed project and orally present to the students. One of the instructors added that criticism takes place within a structure which is included citations of design theory, facts, and references to well-known built works etc and he mentioned that in grading they use the main tutor of studio evaluation form if they have (Interview).

E. Instructors View on Students' Reaction of Jury Sessions

When the instructors were asked about students' reaction of jury sessions, all of them mentioned different reactions. They talked about the sessions they had that students started to argue or complain about the given marks or grades. One of the instructors detailed that defending is good but up to a point and some students insist on what they did and actually they fall in self-constructed trap. But they should know that there is a time to accept and say that okay I understood and I'll consider it next time (Prof. Dr. Tajuddin in interview).

Other reactions students have to juries that were noticed by instructors include nervousness by the student presenting a project and egotistically reaction by the students who received positive comments and acceptant by the jurors and they think they do not need to listen to other students' presentation.

F. Instructors' View on Successful Crit Sessions

In answer to how is the effectiveness of jury sessions compare to desk crits, instructors described in different manner but all of them were agreed that effectiveness of such sessions are conditional and depends to the defined objectives

for these sessions. For instance, if the comments and feedbacks are a part of these sessions the effectiveness is more compare to the sessions which just end up with grades (Dr. Mastor Surat in interview). The other instructor explained about his experience that he saw many students who were sleeping and not paying attention when their peers were presenting, he added that it seems that most of student are just interested to hear their own comments (Dr. Mastor Surat and Ar. Nur Akmal in interview).

Three of six instructors assert that they explain the target of jury session to students to encourage them to participate more in the session. One of the instructors said that he asks students to attend in the discussion of jury sessions and allocate time for it but students still hesitate to attend and they feel that their comments would be useless or not well directed. All of the interviewed lecturers believed that inviting external jurors in sessions will help to improve the effectiveness of jury sessions.

They detailed that in this way students will have a chance to get comments from outsiders and this will help them in their future practical experiences. One of the tutors mentioned that in this way these sessions also would be more interesting and useful for the related tutor as well, because they will also have this chance to sit back and listen to different perspectives, this could be a class room for lecturers also. All of them implicitly mentioned that today's jury system needs improvement and is inappropriate.

One of the problems that they talked about was about preparation of teachers of architecture. Also lecturers' relationships were cited extensively as a crucial factor. The interviewees commented that some lectures seemed to feel threatened if others encroached on their territory, and therefore resisted and involvement. One instructor explained:

"I can have an interesting discussion with individuals (academics) in architecture about design, but I know that they will never allow me to speak to their students about design'. Indeed instructors' attitudes towards their own professions

could cause difficulties. We have an incredible tendency to want to create students in our own image”. (Dr. Mastor Surat in interview)

Table 4.1 Summery of instructors’ point of view on described item

Objectives and purpose of crit	Importance of listening to students design idea The way to answer students questions and guide them Difference in the way students utilize the review across the years
students reaction to desk crit	Different personality; different reaction: Discourage, Disappointed, Confused, Defensive ,They expect students to at least think about the given comments
Crit as learning tool	Effective learning tool Ratio of instructors to students Good opportunity to gain experience and confident
Using a framework in crit	Spontaneous comments and depends to students’ oral presentation Criticism is within the structure of design theory, well known works Grading based on related tutor structure (If available)
Students reaction to jury	Different reactions : Nervousness, Defensive Defending is good but up to a point and some students insist on what they did and actually they fall in self fulfill trap.

4.2.2 Students’ view on critique sessions

Totally forty six from 46 questionnaires were returned by students during four semesters from two batches (2010-2011), (2011-2012). The results from the student questionnaires will be discussed in this section.

The organization of information is based upon each of the topics asked in the questionnaire. The results of each question will be displayed in charts. All data collected from the student questionnaires are displayed in tables in Appendix I.

1. Class Discussion of the Purpose of Juries

Students were asked how frequently the purpose of a design jury is discussed in architecture studios. The objective of this question was to find out how students perceive the purpose of a jury, because it affects the type of discussions that are occurring during juries. Results are illustrated in Figure 4.1. Sixty-one percent responded by stating that only sometimes in design studios the instructors discuss with the class the purpose of a design jury.

Thirty-nine percent of all students responded that in every studio they have taken at UKM, the instructor has discussed the purpose of a design jury. None of students choose never.

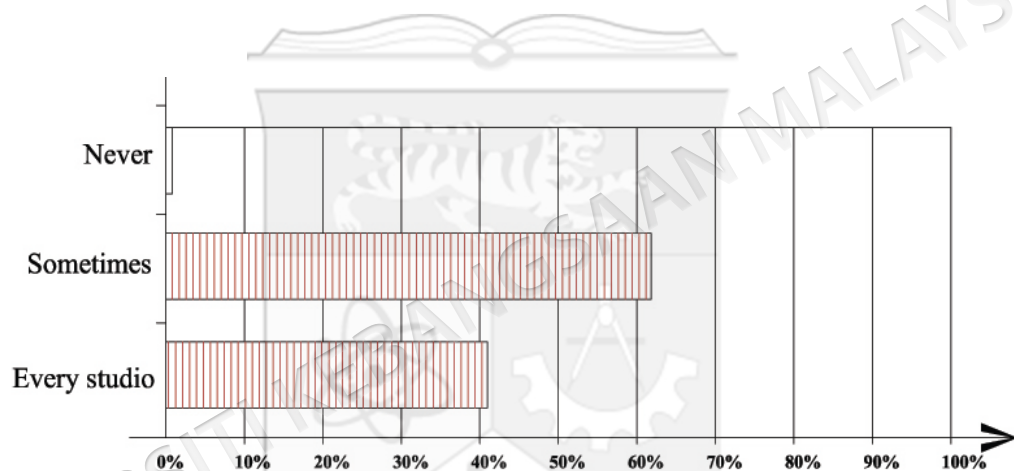


Fig 4.1 Student Response to the Question: During past and current design studios at UKM, did your instructors explain the purpose of design jury to entire class?

2. Encouragement of Students to Participate in Jury Discussion

When students were asked if they are encouraged to participate in jury discussions of other students' projects, just thirteen percent of students responded they are encouraged to participate in discussions, as shown in Figure 4.2, fifty-six percent of all students responded that only in some juries they have been encouraged to participate in jury discussions and Thirty-one percent of students responded that they have never been included in jury discussions of other students' projects. The main reason to ask this question was the importance of students' communication. Because

of the lack of communication may result in a misunderstanding between what students and instructors would like to gain from the experience.

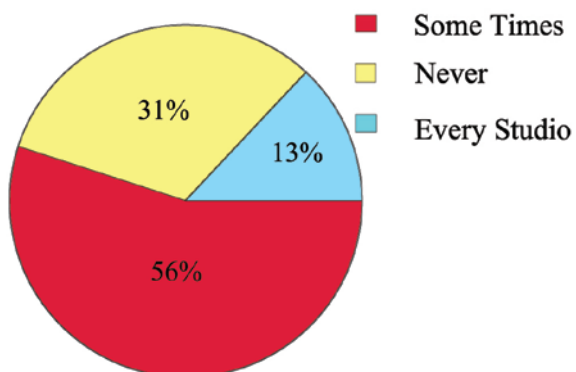


Figure 4.2 Student Responses to the Question: During past and current design studios at UKM, have you been encouraged to participate in jury discussion when another student is presenting project?

3. Perceived Structure of Criticism Given During a Jury

The view of students surveyed as to whether their design instructors use a structure for giving criticism during design juries is illustrated in Figure 4.3. Thirty-four percent of the students feel that jurors do use a structure for giving criticism to students.

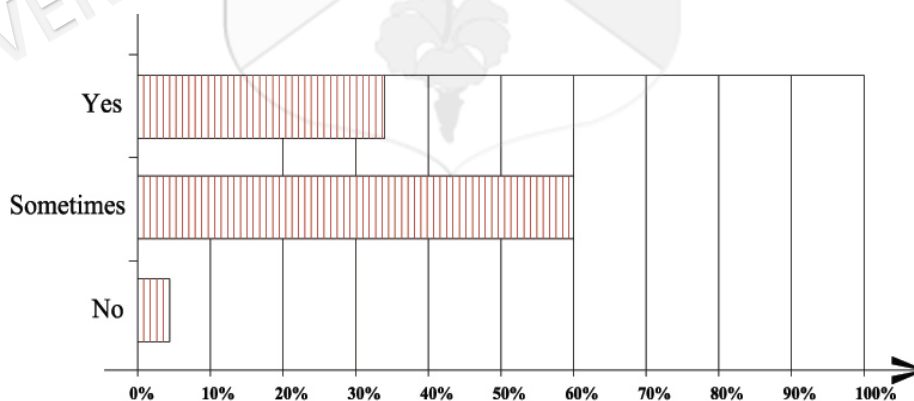


Figure 4.3 Students' Responses to the Question: Do You Feel Jurors Follow a Certain Structure for Giving Criticism in Jury?

Sixty percent of students responded that jurors only sometimes 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. This question was asked to understand whether the current implemented model seems to have unity in students mind or not.

4. Who Should Benefit From a Jury and Who Currently Benefits?

The students' responses to who they think should benefit from a jury are illustrated in Figure 4.4. The objective of this question was to understand is there consistency among students' expectation and current model. Forty-seven percent of students responded that both the student presenting a project and the students in the class observing the jury should benefit from the jury process.

Twenty six percent believed that other students observing the jury should benefit. Whereas, seventeen percent of all students thought everyone observing the jury should benefit, including the jurors. It is the time that student's responses to who they think benefits from the way juries are currently conducted shown that the most common response from students at fifty-six percent was that students believe only the student presenting a project benefits from jury discussions.

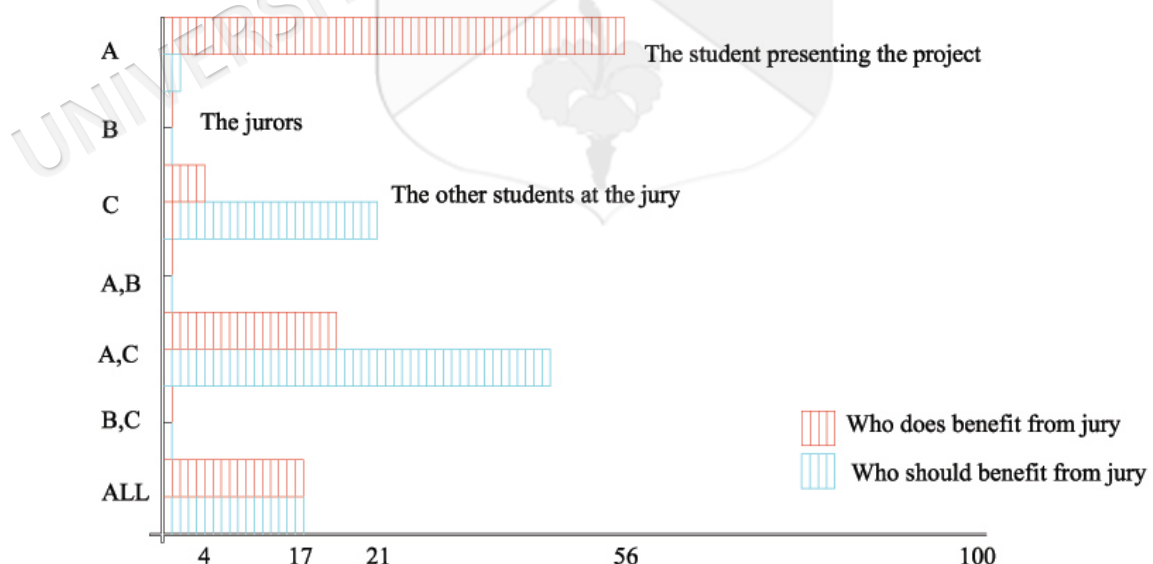


Figure 4.4 Students Response to the Question: Who do you think benefits from the ways juries are currently conducted and who should benefit?

The next common response, at twenty-one percent, was that students thought both the student presenting and the students observing benefit from the jury discussion. Seventeen percent of students think everyone at the jury benefits. Just four percent of all students think just students observing the juries benefits from the jury.

There exists an inconsistency when comparing the students' responses to which they think should benefit from juries and whom they think actually does benefit from juries. This inconsistency may imply that students think juries, as a learning experience may not be as effective as they have the potential to be. Student's responses indicated both the student presenting a project and the others students in the studio observing the jury should benefit from the experience (47%). In comparison, only 21 percent of students think the above mentioned students are benefiting from the experience. The responses for who should benefit from a jury are concentrated to the students (47%); everyone present, including students and jurors (17%); and some think only the student presenting the project should benefit from a jury (26%). In comparison, the responses to who students think benefits from the way juries are currently conducted were widely distributed among all of the choices.

5. Students' satisfaction of crit sessions

Students were asked to rate their satisfaction with desk crits, informal class pin ups, and juries. The answer to this question will clarify the attributes of sessions which would help students to learn better. The students were given a scale of one to five by which to respond to the questions. One on the scale represented the student was very dissatisfied, and five on the scale represented very satisfied.

The responses of four and five, interpreted as the student was satisfied, were calculated for each category. The following results are shown in figure 4.5. All of three learning situations employed in a design studio and students were most satisfied with juries.

Sixty-five percent of all students who were surveyed are satisfied with design juries. Forty-seven percent of all students surveyed are satisfied with desk crits.

Whereas, only thirty nine percent of all students surveyed are satisfied with informal class pin ups.

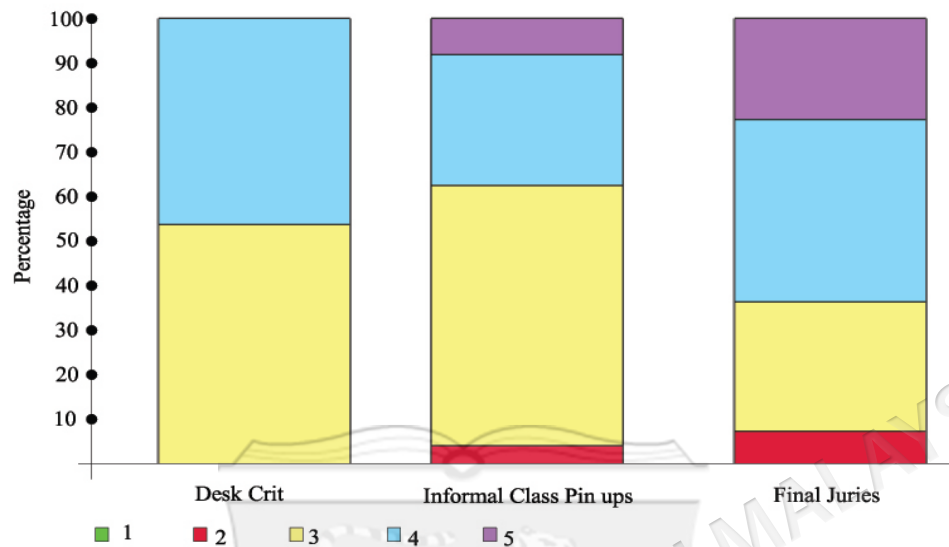


Figure 4.5 Students satisfaction in desk crit, juries and pin ups, by Likert scale

6. The Effectiveness of Learning Tools in a Studio

Students were asked to rate how much they learn from several different situations in a studio. The different learning situations included desk crits, positive criticism, class pin ups, negative criticism, and final juries. The students were given a scale of one to five by which to respond to the questions. One on the scale represented the students learned very little, and five on the scale represented the students learned very much.

The responses were analyzed to find the mean or average of responses. The following results shown in figure 4.6 are shown an average or mean of students' responses for each category to indicate how much students think they learned from each situation.

On a scale of one to five, students' average response to how much they learned from desk crits was 3.9. The next highest learning experience students rated was positive criticism at 3.5. To informal criticism, students rated their learning experience

as 3.4. This was equal to the response students gave to their learning experience while presenting their own project during a final jury, also at 3.4.

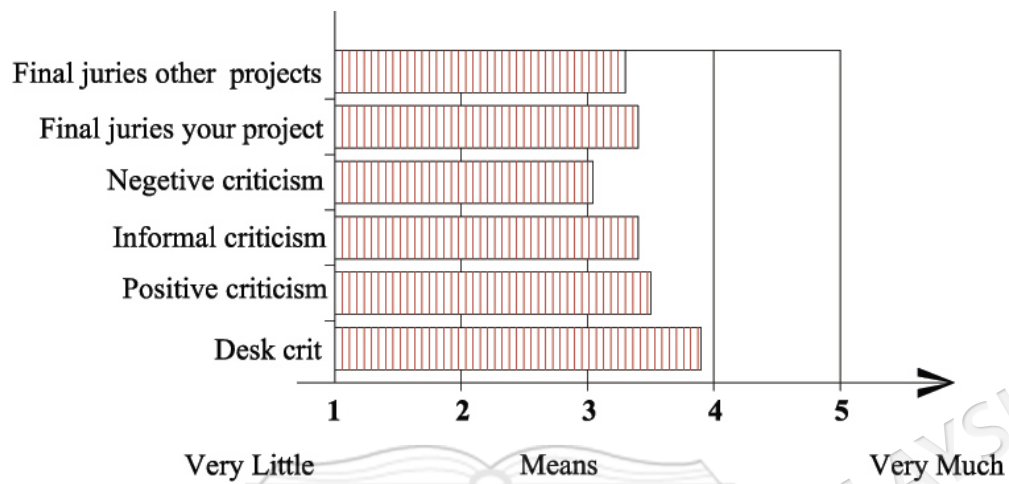


Figure 4.6 Student responses to the question: How much do you usually learn from each of the following situations?

Students rated their learning experience while other students present their projects slightly lower at 3.3 on the scale. The lowest rating for a learning experience was at 3.0 for negative criticism. Also the students' satisfaction level has shown in percentage format, in figure 4.7.

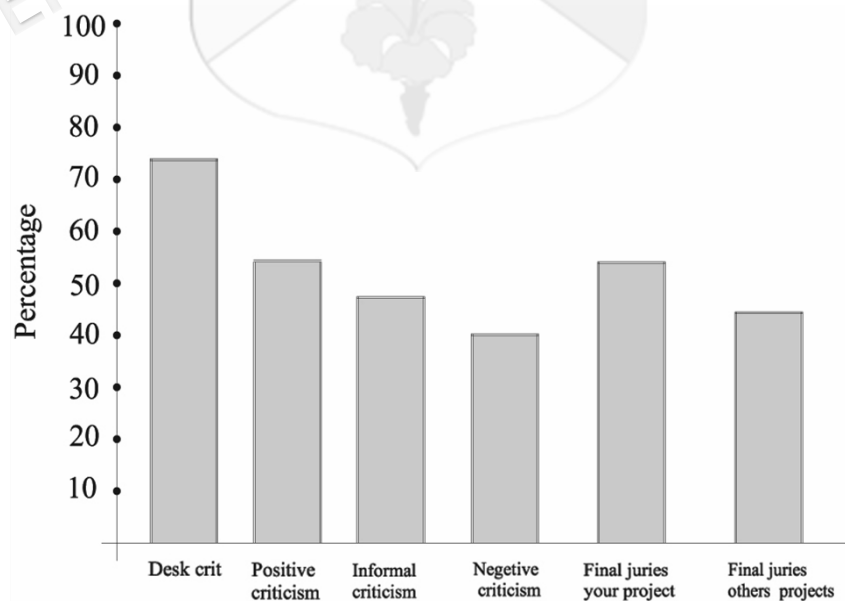


Figure 4.7 Student Response to the Question: In general, how much do they usually learn from each of the following situations? (In percentage)

7. Student View on the Goal of Desk Crit

Surveyed Students were given thirteen choices listed as goals of desk crits. 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 as the student agreed that the given option was a goal of desk crits. The information is shown in Figure 4.8 as the percentage of students who agree that the given topic is a goal of a desk crit. Students responses of what they agree are goals of desk crits are as follows in descending order is:

advice from the studio instructor (91%); an opportunity for instructors to encourage each student to explore their own ideas (91%); understanding their own personal design process (78%); improve critical thinking skills (78%); suggestions for further research (74%).

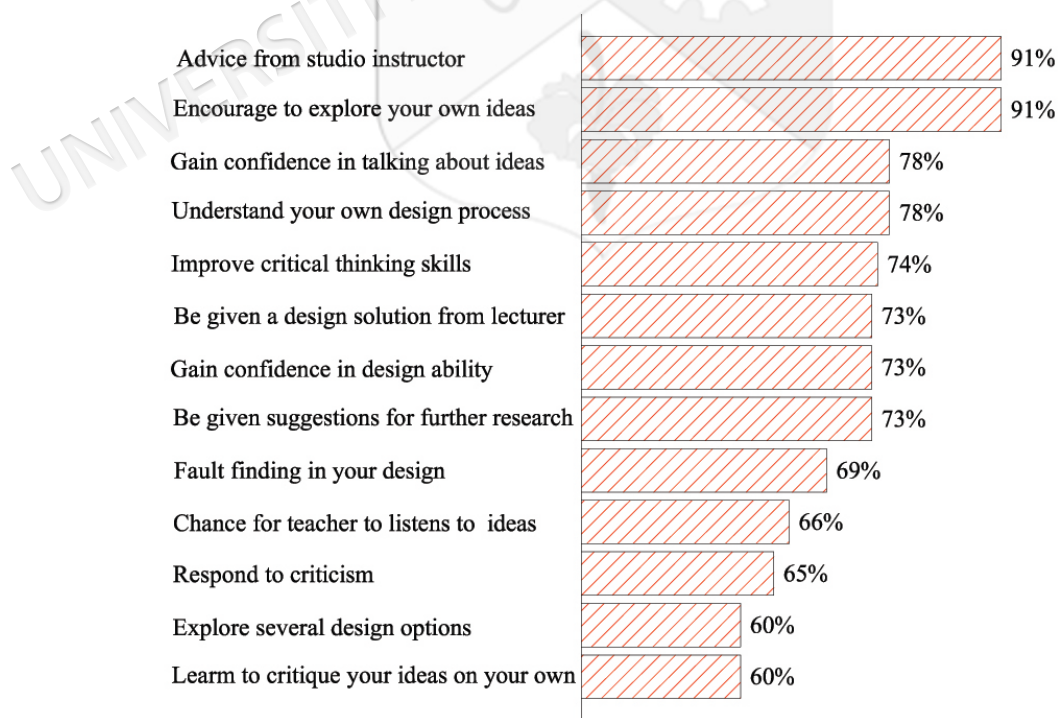


Figure 4.8 Percentage of students who are agree these items are desk crit goals

Seventy three percent gain confidence in talking about ideas with others; find faults in their design (73%); be given a design solution by their instructor (73%); allow a chance for the teacher to listen to their ideas (69%); teach students how to critique their ideas on their own (66%); teach students how to respond to criticism (65%); an opportunity for students to explore several different design options (60%); gain confidence in their own design ability (60%).

8. Student View on the Goals of Juries

Students surveyed were given a choice of eighteen possible goals of juries and were asked to agree or disagree if they thought they were goals of juries. The given choices were acquired from instructors' views on the goals of juries. Students were asked to agree or disagree if they thought the given choices are goals of juries. The students responded on a scale of one to five.

One on the scale represented the student strongly disagree with the option as a goal of a jury. Five on the scale represented the students strongly agreed that the option was a goal of a jury. For each option, the responses of four and five were calculated because they were interpreted as the student agreed the given option was a goal of a jury.

The information is shown in Figure 4.9 as the percentage of students who agree that the given item is a goal of a jury. Student's responses of what they think are goals of juries are as follows in descending order: Improve presentation skills (91%); improve design knowledge (91%); see other students' projects (86%); learn how to respond to criticism (86%); listen to feedback given to other students (82%); establish a letter grade for your project (82%); improve graphic skills (82%); review the process that lead to your design (82%).

Find out what you did and didn't do well (78%); chance for teachers to listen to your ideas (73%); discuss ideas and issues with others (73%); inform future design decisions (69%); improve design vocabulary (65%); improve critical thinking skills (60%); listen to feedback given to other students (60%); chance to please instructors

(60%); chance for jurors to convey their knowledge (56%); allows the chance for others to find faults in your design (52%).

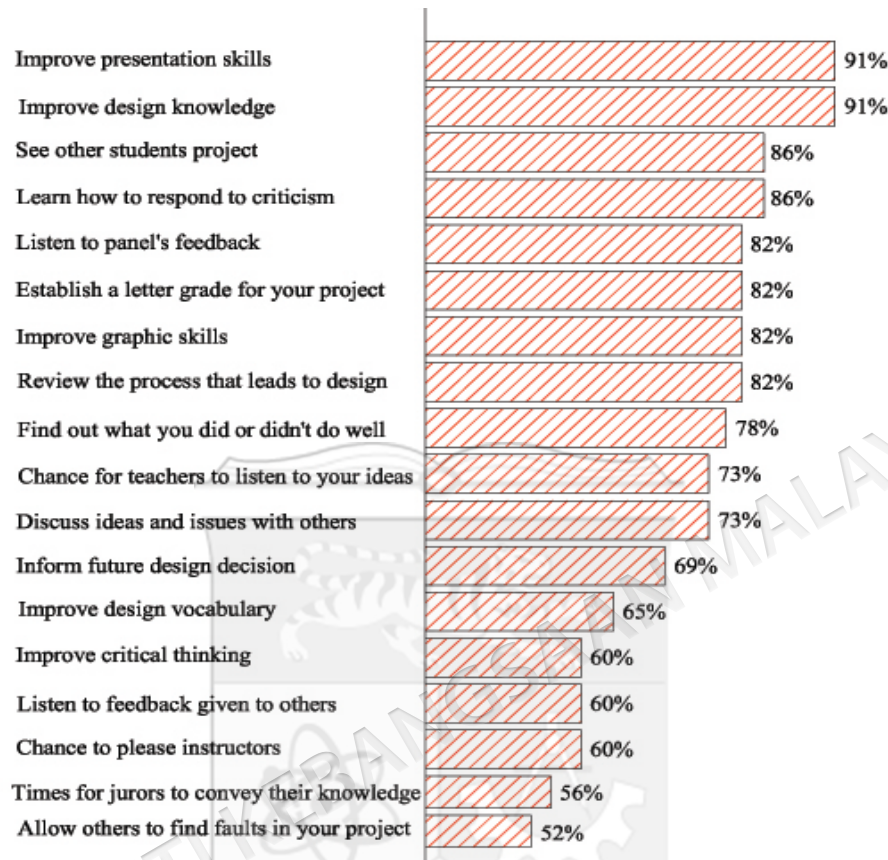


Figure 4.9 Percentage of students who are agree with these items are juries goals

The most important goals of juries according to students directly relates to what they believe they can learn from the project they are presenting. 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.

4.2.3 Students View on Assessment and Grading

As part of our research and to complete the survey on assessment and grading model, individual interview has done with all of forty six students. The full list of questions presented in appendix D. All responses to questions were tape recorded and

transcribed at a later date. The results were then analyzed to find common categories of answers, and a brief summation of the range of answers to each individual question was created. All results are discussed in a summary format because of the quantitative method used to collect the data, and is based primarily on content analysis and the interpretations these results by the author. Issues identified by the students can be outlined as listed below:

- Jury composition and who should be part of the jury process: instructors, tutors and studio leader or a mix of jurors that include external examiners.
- Discussion preference during the jury and whether students prefer dialogue and feedback on their projects or just prefer to receive a final grade
- How students approach their design toward the final jury, whom they want to satisfy, the studio leader or their own thinking
- Preference on final grading policies: a holistic grading on the overall project or an announced itemized grading based on different project elements (precedent studies; program analysis; mass and contextual plan; floor plans; facades and imaging; perspective or axonometric drawings; and the overall presentation) or comparative.
- The impact of utilizing impressive presentation techniques on the final grades, irrespective of the design concept and the ideas involved

In general terms as figure 4.10 shows students prefer the involvement of external examiners and jurors (92%).

Some students stated that external critics bring different perspectives and approaches on how they look at a project and this will help in understanding what aspects should be considered in future projects. In fact, these responses reflect a general awareness of what the jury composition can add to their learning experience.

Notably, those who prefer the involvement of only related tutor are mainly students who feel that outsiders do not know much about what the project is about, the nature of the assignment so they come unprepared and thus address issues that go

beyond the scope of the their projects under assessment and believed that personal impression would have strong impact on grades.

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	%

Figure 4.10 Summaries of students' responses to key issues on jury practices

Then it can be argued that the fact that subjectivity and personal interest is considerable parts of jury. The majority of students prefer having an opportunity to receive feedback and defend their projects over only receiving a final grade. This indicates that they admit the validity of the jury system as part of learning process and they want to engage in discussions. It should be noted that the practice of conducting the juries behind closed doors still prevails in many schools of architecture around the world.

The typical claim by instructors and students is that it is a time consuming process, discussing students' projects individually due to the large number of students. One of students mentioned that waiting around all day for my turn is the worst experience in submission and jury days. This can lead students feeling that they have had insufficient tutorial time or tutor interest. Over 50% of the students (25 out of 46)

feel they are given enough time to present their work and that this time is typically around ten minutes. However, more than 70% of the students stated that they are either interrupted by jurors' questions while they are in the middle of their presentations and in some cases they are not given sufficient opportunity to complete their presentations, or go into a conversational mode beyond the scope of their projects. Some students commented that this creates a chaotic tense situation. This corresponds to the work of Frederickson (1990), when he argues that a typical statement is often heard immediately after the juries. "I wish the jury had enough time to sit and listen to me, I have prepared things to say. I needed extra time to explain clearly". (Interview)

The other problem that students mentioned in interview were about feeling embarrassed in jury sessions. They said that usually during the presentation they face to expressing boredom from critics. If a student spends six weeks of their life on a project, the least jurors can do is to spend time to listen and understand the scheme. These reactions from tutors also can lead to prevention in communication. Upon their questionnaire responses, both tutors and students indicated that they would prefer smaller groups in order to maximize the opportunity for proactive involvement.

Both tutors and students agreed that all day reviews are unproductive. Repetition and discussion irrelevant to issue will deplete the vigor of the jurors. Concentration is difficult to sustain and tutors become less effective as teachers as fatigue sets in. furthermore, voluntary intermittent attendance must interrupt the flow of ideas and concentration of the group. Students expect to be asked questions about their designs that directly reflect the project brief. As mentioned before the tutors agreed that criteria given in the brief were an important influence on the form of questioning, but in their responses they also indicated that, as might be expected, their first consideration was the strength and weakness of the students' design.

The tutors also suggested that members of instructors had their own preference and priorities, and would tend to bias their questioning to accommodate these personal interests. While only 26% of students responded that they attempt to address the style and interest of the instructors while at the same time integrating it into their own

understanding and interpretation of the design problem, the nature of the project, and the overall requirements. 17 % of students believed that emulating the style of studio leader and tutors and reflecting their interest is the driver for developing their design ideas in order to guarantee good final grades, but the majority does not believe so. Beside this majority of students believed that utilizing impressive presentation techniques has strong impact on the final grades irrespective to the design concepts and ideas (81%).

The total responses by the students illustrates that the development and improvement of verbal skills appear to be the most important part of their experience in final juries. They commented that priority is given to design as product in terms of visual or graphic output rather than to design as a dynamic and interactive process and emphasis is primarily on the student's models and drawings. They added it can be easily understood by tutors feedback and comments (Interview).

Even some students stated that focusing on the presentation layout is more important to them than any other skills to attract the attention of the jurors while others mentioned that as part of their experience they learned to play with words to impress the jurors.

The majority of the students (63%) agreed that design and projects priorities are changed during the jury process from what was intended and emphasized during studio instruction, commenting that this contributes to a continuous misunderstanding of what the project intentions were, and what aspects they should have placed emphasis upon, or whether there were true learning outcomes expected.

Some students commented that this sometimes creates a lack of trust between them and the studio faculty who they expect to run the jury based on aspects kept emphasized throughout the project process. In essence, this result leads to the argument that the change of design priorities may lead to an anxious, defensive, and potentially hostile attitude toward the jurors. Those students who do focus on process and develop new programs or ways of reconceptualising space or user relationships are rarely given credit because of the current systems of assessment used by schools of

architecture. Students are not usually rewarded explicitly for their analysis of user or client needs unless they result in a creative addition to the conceptual design proposal even though a great deal of analytical thinking may have been undertaken by students.

In fact, what is valued in the profession, form, is reflected in architecture schools. Approximately 77% of the students prefer having an announced grading policy on different project elements including the presentation itself. It is essential, that students know which of these intentions governs the particular review process, because unless they do, they will be unable to direct their efforts. If the focus of tutors' responses is unpredictable in this way, students will be uncertain of the basis on which their project work is to be appraised. The tutors' actions and presentation of the material to be learned will tend to be random and disjointed, rather than coherent and systematic.

Twenty five percent of student respondents claimed that tutors were inconsistent in their responses, and their dilemma was summarized by the student who, when asked for suggestions for improvement in the review said: "make sure all the lecturer are on the same wavelength and want the same thing". This will decrease the divergence of given comments, feedbacks, and change in priorities in design and objectives. This will minimize the level of subjectivity involved in making judgments about students' projects. The student's responses to which factors make the assessment fair to you are illustrated in figure 4.11 Students were given four choices and they were asked to circle as many answers as needed to best describe their response.

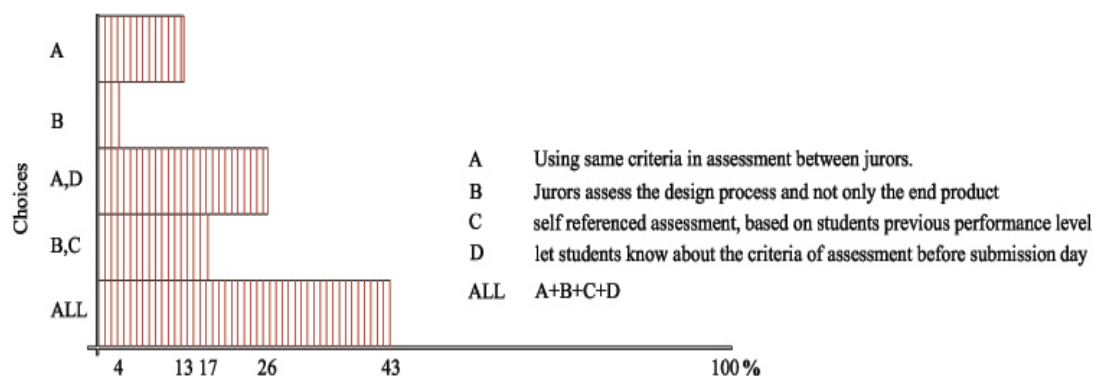


Figure 4.11 Student Response to Question: which factors make the assessment fair?

Twenty six percent of students responded that the fair assessment system is one that has specific criteria which all students are aware of implemented criteria before and is same between jurors.

Whereas 43 percent of all students believed that moreover these mentioned specifications the fair assessment should be based on student's previous performance level or self referenced assessment and apply to all design process and not just end product.

4.3 PHASE TWO: DIRECT OBSERVATION

4.3.1 Long Term Survey Descriptions and Findings Using Direct Observation and Periodic Questionnaire

At the second phase, second year students as non experts in managing project base on receiving comments and critique put under direct observations and their feelings, reflections and satisfactions were surveyed with use of smileys questionnaire which distributed immediately after end of each sessions from one to one desk crit to studio pin ups and random interviews based on observed students' performance at each session.

Since it is vital that the information about the modules presented to students during the introduction program should be full, accurate and clearly presented, that students can base their learning contracts on as full an understanding of the course options as possible, at the beginning of each semester the semester calendar were given to students for their information and more clarification for the process, deadlines and time managing.

Since in this step of second year students should try to make experiences by iterating their design process under supervision of their studio masters and allow them to spend as much as time as possible on the design stage of a project, tutors usually select specific building types for study (Appendix E presents the semester calendar in detail).

For each semester three different projects were defined base on syllabus and objectives of the course obtained from the faculty (Appendix E presents the semester calendar in detail). The defined projects to the studio the method of presentation and the format of review that has implemented to second year design studio at Universiti Kebangsaan Malaysia in two different batches (2010-2011), (2011-2012) are tabulated in Table 4.2.

Table 4.2 Alternative review formats at UKM

Format	Project	Method	Special teaching inputs
Exhibition	Design of a temporary structure	Pin up student drawings, conventional review	
Talk	Design a medium sized building in a dense urban context: initial investigations	Small groups. Prepared illustrated talk based on site studies.	Workshop on summarizing key findings and planning a presentation.
Meeting	As above: Conceptual idea	Individual student presentations to small group, using drawings, models and OHP	Written guidance on the review process and objectives
Selective	As above: Sketch scheme proposal	Individual student presentations to small group, selected schemes from basis of feedback to whole student group.	Written guidance on the review process and objectives
Exhibition	As above: Final review	Self explanatory display reviewed by staff, followed by questions to individual	Written guidance on the review process and objectives

Second year design students normally tend to become more skeptical because of lack of enough experience and tutor role would be more crucial relatively. Teachers to transmit their experiences to the students, at the intervals throughout the semester by placing a sheet of tracing butter paper over student's design and says things while he is drawing and making lines that carries the spaces from place to place.

Their words do not describe what is already there on the paper but parallel designing and talking is the language of designing. By the nature, the work of the first two projects became a self-assessing exercise. Students found they could not be sure that their drawings conveyed the intended message.

The reason for collaborative learning was also made explicit to the students to ensure they were motivated to work in groups. Practicing architects joined the early workshops to talk about group working and its relevance to professional practice, and an educational rationale for collaborative learning approaches was also provided – it was emphasizes to the students that group learning can in many situations be more powerful than individual learning. Next the value of project based activities where students from different disciplines are grouped together and role play some aspects of practice have seen. Integrated project activity of this kind was seen as a proactive method of fostering collaboration. It could act as formative learning, enable students to experience working together and encourage them to appreciate the abilities and roles of others, as well as putting their own specialism into some form of context.

Student-led reviews were run, each including feedback and evaluation activities. They were run at the interim review stage of second year design projects involving the whole year of twenty three students in two different batches (totally 46 students). While their structure was prescribed, responsibility for running them, including their time-keeping, was handed over to the students. The tutors' role was restricted to facilitating the process.

In exhibition format, the staff were expending half a day reviewing the exhibited work privately, and then holding short sessions with the individual students. Comments by the instructors focused on the presentation process rather than content.

This exercise highlighted the difficulty of treating content, commentary and communication techniques as discrete elements for review. In interim submission stages whereas tutors usually sit at the front, concentrating very hard and nodding in all the right places, in this review seats were arranged in a single-line semi-circle around the presentation area, with the tutors seated behind the students, thereby psychologically reinforcing the principle that the session was student-led. The students were put into groups of 4-5, comprising three panels of four or five in each group.

The first panel made individual presentations of their schemes for five minutes each to the other two panels, who adopted the role of critic. Each of these two panels then spent 15 minutes privately discussing the schemes and presentations they had seen. Then a spokesperson from each panel presented the key points raised, making sure that all schemes were addressed, and any specific requests for feedback that had come from the presenters were responded to (all students had recently attended a preparatory workshop to introduce methods of developing presentations and offering and receiving constructive criticism). Finally the presenters were asked to summarise the feedback that they felt they had received from panels, and explain how they planned to proceed.

In submission, each individual gave a short introduction to his or her design scheme. The specialist groups were then given a short time to discuss the schemes, after which they were asked to make two comments- one favorable, highlighting a strength of design, and one constructive suggestion for improvement. After a discussion of the comments the staff panel made their own commentary and summarized the review. In addition each student appointed an observer to record the proceedings on a feedback sheet, to which the individual student added his or her own comments and self assessed mark. The process is summarized below: Review timetable – audiences in panels- staff- users-clients- experts. First the observer appointed for each student to record comments on feedback sheet, short introduction to schemes by each student in turn, specialist groups discuss schemes and formulate 2 observations. One favorable and one constructively critical, discussion of specialist group observations, staff comment and sum up, finally students record their own

comments and self assessment on feed back sheet. Just before the final examination, at which a mark is awarded for the work carried out for the module. Additionally, student and tutor discuss the way that the student intends to present his or her portfolio in the final submission. In some cases, a personal tutor attempted, playing the external examiner.

Subsequently both tutor and student reflect on the performance, paying particular attention to the clarity of the verbal communication. Both stages of the portfolio review are both backward and forward looking. This helps to develop reflective patterns that are important for the cultivation of self –responsibility in learning. For final submission, students were required to present an organized portfolio of their work to the panel and received counseling on their progress and academic aspirations. At the beginning of the final submission the student's portfolio is looked at by his or her personal tutor, in conjunction with the student, with a view to how well it presents the student's learning experience and individual profile.

The student then agrees on additional work that might improve the portfolio's effectiveness. Again this requires the student to reflect on his or her progress in relation to the overall learning goals, but it also encourages the student to identify gaps between progress and goals and to determine what has to be done next in order to close that gap. This self-assessment of progress is next is critical for the fostering of self direction in learning.

4.3.2 Results from Direct Observation and Interviews

Interview with chosen students based on their performance and success or unsuccessfulness shown that most of students had enjoyed the process, especially peer review sessions, a typical comment being was: "I actually had fun listening to my friends speak and address not only the tutor but also all the rest of us. Some of the comments indicated that it worked really well- everyone got involved, less intimidating with other students criticizing" (Interview). The students also felt that they had received some useful and constructive feedback from their peers: "It was a useful exercise to justify and discuss ideas approaches with your peers rather than

simply seeking tutor approval' and colleagues can sometimes be the best critics. They had been fully involved in the crit and as a result it had been less boring and people actually stayed awake". (Interview)

Feedback also suggests that both the presenters and the individually offering constructive criticism felt that their work and opinion had been valued. They mentioned it is very positive having feedback from colleagues because you feel like people actually is taking what you think into consideration.



Figure 4.12 Students' participation in jury sessions-Obtained by direct observation

The students had enjoyed the opportunity to develop their own critical analysis skills, offering comments with great enthusiasm, some of the people who had spoken had never participated in the past. One student said: "Criticism from other students was helpful, but more participation from tutors would be helpful as they are more knowledgeable and mark the work".

This problem disappeared after the introduction of the specialist groups. Instead of individual students being asked to take the perspective of client, user or expert in the reviews, the specialist groups formed a panel and were asked to contribute to the discussion about the design scheme. Students' attendance at reviews also increased

after the specialist panels were brought into play. Moreover, instead of leaving after their own reviews were over, the students were more likely to stay and join in the discussion of other student's design scheme. In summary, the reviews became less stressful, less confrontational between staff and students, and more enjoyable, with a deeper level of analysis and discussion.

The students had also enjoyed receiving the varied opinions of many people rather than just one or two tutors and the student crit panel had enjoyed being addressed directly rather than the usual scenario of the presenter talking only to tutor. For many, the relaxed atmosphere had helped the presentations themselves. There are many factors that could have contributed to the effectiveness of the sessions, including the time structuring, preparatory session and the small group size achieved by breaking down the year into parallel session.

In summary, sessions proved to be the most effective in increasing student participation. Perhaps more important is the fact that students and tutors felt this participation was beneficial. One student commented: 'We stayed totally awake and interactive for three hours constructive, interesting and useful.'



Figure 4.13 Students' participation in studio-Obtained by direct observation

4.4 PHASE THREE: RESULTS FROM PERIODIC QUESTIONNAIRE

At each stage of submission sessions that were run and at the end of each the students and tutors were asked to complete a feedback form, giving score from one (not at all) to five (completely) according to their judgment of how successful the crit had been in

achieving the three main objectives which were increasing participation, improving presentation and constructive criticism.

Students were given smiley faces to more easily explain their feeling on effectiveness of implemented assessment model, figure 4.14. Spaces were left after the scores for comments relating to each of the objectives.

Students and tutors were asked to note anything they particularly liked about the sessions and any suggestions they might have for improving it.

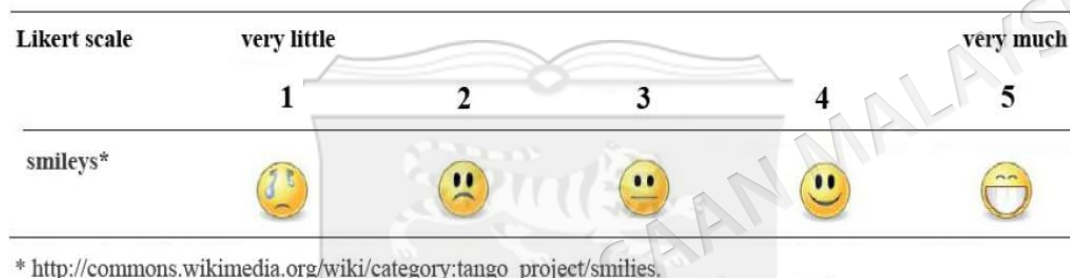


Figure 4.14 Given smiley faces to students and their equivalent in Likert scale.

Totally 80 feedback forms out of 92 were returned by students after the two sessions. Figures 4.15, 4.16, 4.17 show students' feedback on each objective separately.

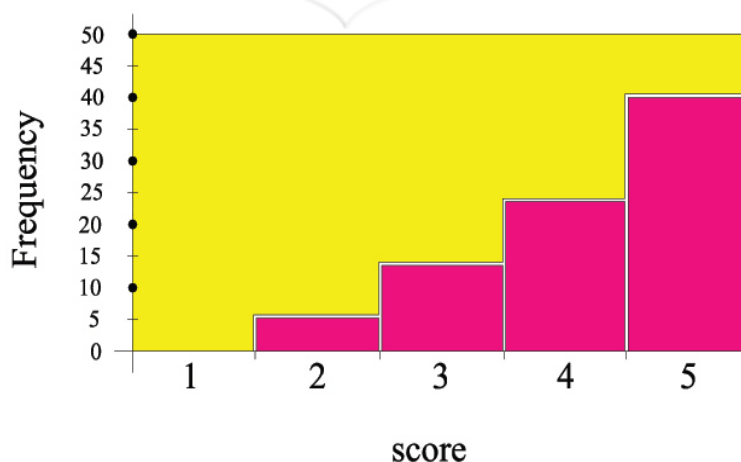


Figure 4.15 Students' feedback: increasing participation

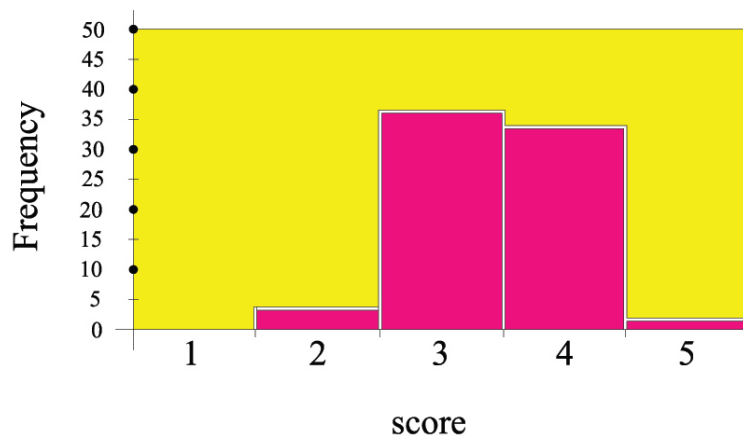


Figure4.16 Students' feedback: improving presentation

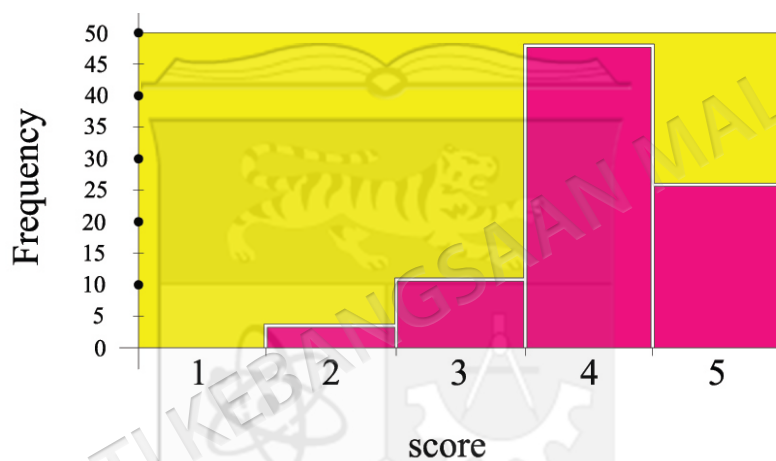


Figure 4.17 Students' feedback: constructive criticism

Totally six feedback forms were returned by tutors after the two sessions. Figures 4.18, 4.19, 4.20 show their feedback on each objective separately.

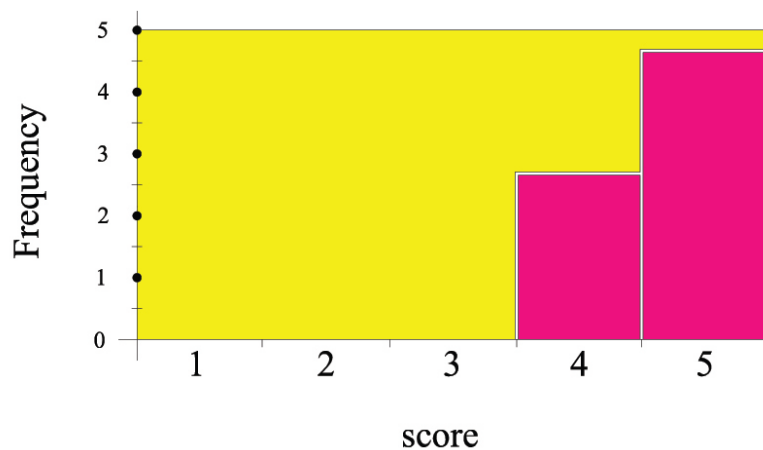


Figure 4.18 Tutor' feedback: increasing participation

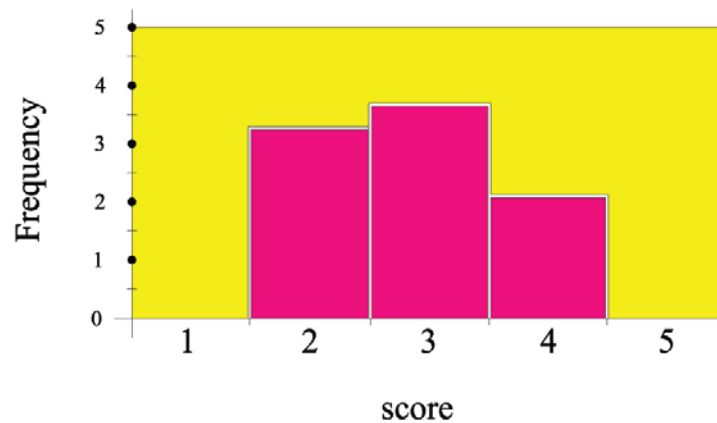


Figure 4.19 Tutors' feedback: improving presentation

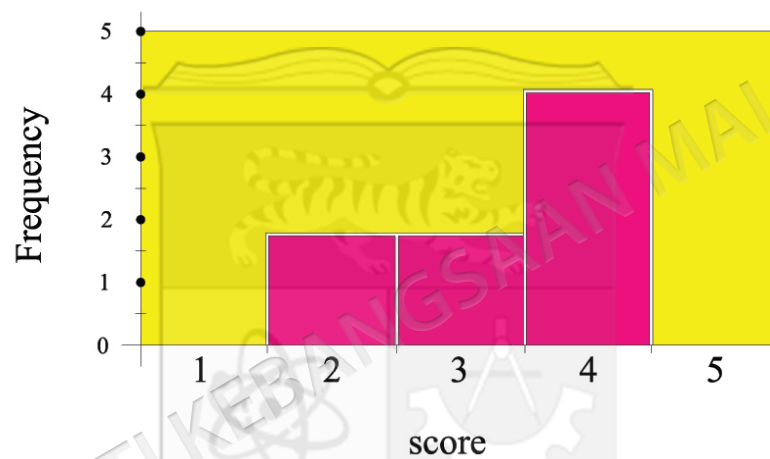


Figure 4.20 Tutor' feedback: constructive criticism

The trials showed that explicit skilling objectives can be built into the project review, and that students' communication skills can be noticeably improved. This could mean greater concentration on the skills of communication, summarizing, group work and analysis in the first years. It was felt that there had been a need for more guidance in verbal and graphic presentation.

Time keeping had been good on the whole. Direct observations have shown that the students were constrained by their own inexperience in engaging with the design process. However it was seen that the more responsibility that is given to students, the better they seem to use it. The trials confirmed that smaller groups are a more effective forum for students learning. They also showed the need for further clarification of whether the objective of a review is assessment or learning

opportunity. Whilst not incompatible, these two objectives have differing implications. For instance interim reviews that, in the absence of clarification, may appear to students to be assessable, will lead to the students focusing on that as an end result (the mark or grade awarded) rather than on the learning that takes place. Effective project reviews necessitate additional planning and organization, with a clear specification of the process, objectives and outcomes.

The tutors involved in the reviews, including visiting practitioners and critics, have to be fully briefed in advance. It is interesting to note that by playing the role of the critic some students had been made to appreciate the tutors' view and had begun to understand some of the advice they had previously been given: 'it does make you consider points that tutors have been telling us for two years'.

4.5 CHAPTER SUMMARY

This chapter reveals three phase investigation on second year design studio at Universiti Kebangsaan Malaysia. First instructors' view on purpose of desk crit and its objectives, how students react to desk crit, effectiveness of desk crits as a learning tool, purpose of design jury, use of framework for criticism during a jury, effectiveness of juries as learning tool. Also students' opinion and experience have been investigated in following items. Goals of juries and desk crits, effectiveness of learning tools in studio, satisfaction level of desk crit-pin ups- juries, structure of criticism during design jury, encouragement to attend in discussions, the benefits of crit session, assessment and grading.

At the second phase a long term observation and surveying described and results presented. The results included Interviews and questionnaires and direct observations. Third phase allocated to the results of testing proposed model for assessment and grading which was described and introduced in chapter three. The results of investigations were presented in the form of charts and diagrams and prepared for discussion in next chapter.

CHAPTER V

DISCUSSION AND ANALYSIS OF FINDINGS

5.1 QUALITATIVE STUDY

The results from questionnaire and interviews will be discussed in this chapter. First of all there would be a discussion on the findings which were presented in chapter four. The discussion would be present in three phases. The comparison of the student's reactions to different critique sessions which are desk crit and jury sessions would be discussed. Then the reality and expectations would be discussed in detail. The results of long term investigations would be the next. The comparison of the obtained results from related researches in Canada, Malaysia and Egypt would be the next.

5.1.1 Discourse on Findings

A. Critique Sessions

According to instructors' responses the project review provides an important context for learning from tutors in the first instance. The data collected from architecture design studio instructors at UKM confirms the belief by Anthony (1991) that the design jury is an opportunity for the student to communicate the process and solution to a design problem. Instructors, during a jury will listen to the student present a design solution, which should lead to an understanding of their concept and idea development. After the presentation, instructors' will discuss the student positive and negative aspects of the design, some will put more emphasis on discussion on individual student project and some will focus on discussion on comments and the benefit of entire class and some believed the grades are the main objectives of such sessions. If the focus of tutors' responses is unpredictable in this way, students will be

uncertain of the basis on which their project work is to be appraised. The tutors' actions and presentation of the material to be learned, the process or fact, will tend to be random and disjointed, rather than coherent and systematic. Analysis of the tutors' comments suggested that while most tutors think that the review is an opportunity for learning, a few regard it as an assessment point. Some tutors prefer to evaluate students' work according to set criteria, other aim to focus on diverse issue in their review comments in order to broaden the basis of student learning.

In effect, tutors may not be maintaining the important distinction between the two activities. Results from students' survey imply 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 which is similar to Kathryn Anthony's findings. Learning from the jury is a key goal. However, rating lower as goals for design juries according to students responses may imply that the communication in the juries as they are currently conducted revolve around evaluating how well a student solved the problem by producing a finished product.

B. Benefit from a Jury

There exists an inconsistency when comparing the students' responses to which they think should benefit from juries and whom they think actually does benefit from juries. This inconsistency may imply that students think 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.

C. Class Discussion of the Purpose of Juries

Tutors statements and direct observations show that instructors don't explain the objectives of crit sessions with students while teaching a design studio or they just discuss about how to give an effective presentation, or reassuring students that juries are intended to be constructive. So we can see that there is not enough communication between instructors and students is taking place in studios about the purpose of design juries. This may affect what type of learning experience both the teachers and students

think they have in a jury sessions. How students perceive the purpose of a jury affects the type of discussions that are occurring during juries.

D. Evaluation and Comments

As surveyed view of instructors has shown, instructors also were agreed about spontaneous comments which depend on certain project. 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. 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.

E. Reactions

Reactions that students have to juries which were noticed by instructors include nervousness by the student presenting a project and egotistically reaction by the students who received positive comments and acceptant by the jurors and they think they do not need to listen to other students' presentation. Defensive reaction in the other type of reflection, which mentioned as good feedback up to a point and some students insist on what they did and actually they fall in self fulfill trap. But they should know that there is a time to accept and say that okay I understood and I'll consider it next time. While receiving the jury's comments, most architecture students display defensive and nervous behavior. Most of this behavior was non-verbal like avoiding eye contact, and covering up the mouth and chin.

F. Encouragement of Students to Participate in Jury Discussion

All instructors assert that they invite students to attend in discussion and one of them said he tries to encourage them. Lack of communication may rout in a misunderstanding between what students and instructors would like to gain from the experience. Also survey among students shown that some of them feel uncomfortable about criticizing each other's work and therefore tended to make unperceptive remarks such as this scheme seems to work really well from the user's point of view. How students perceive the purpose of a jury affects the type of discussions that are occurring during juries. Even if instructors are encouraging students to engage in a

discourse, the exchange of ideas may be limited by the students' perceptions of the purpose of the discussion. If students feel the jury discussion influences the evaluation of their project, the discourse may be limited rather than the discussion flourishing about issues, ideas or concerns any of the students may have.

G. Needs to Improvement

All of students and instructors implicitly mentioned that today's jury system needs improvement and is inappropriate. One of the problems that they talked about was about preparation of teachers of architecture. As Kevin Rhowbotham has remarked, it is customary among practicing architects to assume that those who have achieved some degree of experience are automatically equipped with all that is necessary to teach. No doubt this is in part a reflection of the lack of training for lecturers in higher education generally, which has been the norm until recently (Rhowbotham 1995).

5.1.2 Comparison of Students' Reactions to Different Critique Sessions

Students surveyed were given a choice of 13 possible reactions students have to crit sessions. They were asked to rate how frequently they responded in the given ways. The given choices were acquired from instructor interviews. The students responded on a scale of one to five. One on the scale represented the student rarely reacted in that way to desk crits. Five on the scale represented the student very frequently responded in that way to desk crits as figure 5.1 revealed. For each given reaction, the responses of four and five were calculated because they were interpreted as the student frequently responded in the given way to crit sessions. The information is shown in figure 5.1 as the percentage of students who frequently responded in the following ways to crit sessions.

The higher level of appreciation in jury sessions compare to desk crits has completely confirmed by students comments in personal interview. They mentioned that they like attendance of external jurors in their jury sessions because they can be aware of different views and perspectives to their designed project and get more comments. In general terms students prefer the involvement of external jurors to make the jury process more objective and attendance of jurors will help achieve this.

High rating to receptive to feedbacks in desk crit sessions were predictable because in this types of sessions students still have time to change, develop or complete their design but normally the jury sessions are held on special step of designing which students' designing is presentable. Students believed that from jury sessions they expect more perspectives, views and comments so they prepare themselves for different comments and this make them to feel more excited about given comments and ideas. This make them understand that there are more than one correct answer for any problem and how they can find best solution and optimize their decisions.

Reactions	Desk crit	Juries
Appreciative	70%	74%
Receptive to feedback given	60%	56%
Ready to try new things	47%	56%
Encouraged	60%	61%
Excited about ideas	47%	60%
Confused	52%	22%
Inspired	74%	52%
Confident in personal design process	48%	50%
Disappointed	30%	22%
Nervous	33%	35%
Defense of ideas	44%	48%
Resistant to take advice	44%	31%
Indifferent	47%	39%

Figure 5.1 How Frequently students React in the Following Ways to Crits sessions

As it has shown in figure 5.2 students more frequently feel confused in desk crits compare to jury sessions. When they asked for the reason one student commented that in the first steps of design, the process and the comments seems more complicated, little by little, after some crit sessions blur and complicated issues will become more vivid and the comments more understandable. In fact they did not know what they needed to know. This is the classic dilemma of the inexperienced designer.

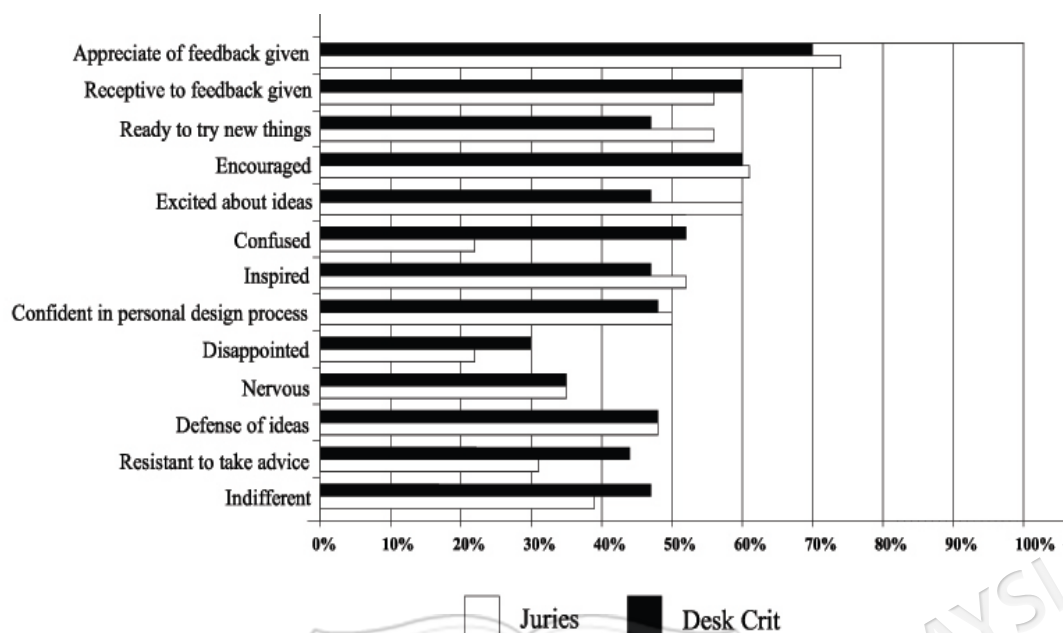


Figure 5.2 Comparison of Frequency of Students' Reactions to Desk Crits and Juries

Majority of students believed that more inspiration takes place in desk crits and given comments in such sessions. For the reason they asserted that in concept and idea development we need more inspiration and we have desk crits in these steps beside this usually jury sessions are allocated to fault finding and not inspiration.

Students rated for more confident about their design in jury session because their desk crits take place at the early stage of making decision in each part of designing, so they have less confident to present their design and discuss ideas. Also they believed that at jury sessions, attendance of external jurors make them feel nervous and this decreases their confidence.

Students believed that they need to defend their ideas and design development more in jury sessions because external jurors may not well understood about their design process and idea development for the lack of time for students to explain. Students rating reveals that resistance to taking advice in desk crits is more because that is the time that they can take a risk and develop their own idea. Also in personal interview some of the students mentioned that teachers usually do not give any clear suggestions and comment to what to do and this make them confused so they think that if they follow that idea they will just have time wasting by a misunderstood.

In general term, a comparison of student reactions to desk crits and juries is shown in figure 5.2. Overall, students react more positively to desk crits than juries. In a desk crit, students more frequently react in the following ways: appreciate, receptive to feedback given, ready to try new things, encouraged, excited about ideas and inspired.

It is possible that students react in these ways more frequently to desk crits than juries because the feedback given during a desk crit can be acted upon because the student is in the process of design when he receives a desk crit. Desk crits also allow for a closer physical distance between the teacher and student where they physically are on the same eye level, which probably allows the student to feel more comfortable talking about ideas. 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 work being on display may cause a student to become nervous and defensive of his ideas.

5.2 REALITY AND EXPECTATIONS

According to the American Heritage Dictionary, Reality is defined as “the condition or quality of being real or true” and expectations are defined as “prospects; hopes, as of success, profits, etc” (Salama 2010). In this research, student’s expectations were interpreted from feedbacks provided by questionnaires. Expectations have come into existence because successful learning experiences have occurred before. After experiencing an effective model, students and instructors consider it reasonable to demand another experience of the same quality and they feel the situation is due to them. Classifying this research case study students’ declaration about their experienced design studios and their expectations mentioned in chapter four reached to five problem categories that are related to environmental setting, jurors and students.

1. The reality of our design studio research is time, large groups of students in a studio, an unbalanced amount of time is usually spent on projects for various

reasons, including poor time management, some students talk longer than others, or some projects instigate more discussion than others. 2nd year Students expect juries to be focused and allow for all students to have the same amount of time spent on each student's project.

2. The setting of the design studio crit is based on offensive inquiry ending with judgment and grades. Our research studio students expect criticism to be constructive, delivered tactfully, and include both negative and positive criticism, while offering advice on what improvements could be made.
3. All interviewed design instructors believed that some of the best juries are those in which students are engaged in the discussion and concerned with learning from their classmates design solutions. The reality of our studio research is sometimes students haven't slept the night before a jury, which may result in the students not engaging in discussion, or losing interest very quickly.
4. This research's student and design instructors' expectations of the jury panel is to have a variety of jurors to give the students differing viewpoints, the reality is that all too often, the only jurors that are present are the studio design instructor and his teaching assistants.
5. 2nd year students of UKM complained about lack of criteria among jurors. Subjectivity of jurors attributed to personal preferences due to understanding and experience in certain domains and weakness in other. This contributes to other problems such as:
 - a) Lack of transparency in grading.
 - b) Fixation on certain design issues while ignoring or simplifying other design issue that leads to boring and repeated discussion.
 - c) Weakness towards strong presentation versus commitment to design standards and program requirements
 - d) Hidden agendas among jurors.
 - f) Showing off to impress certain audiences whether students or jurors.
- 6.

5.3 DIRECT OBSERVATIONS AND PERIODIC INVESTIGATIONS

To bridge the gap between reality of design studios and expectations as third part of action research some improvements implemented to the studio. As mentioned in chapter four put label upon each session and introducing the objectives of each action to the studio to gain more enthusiasm from students to participate in sessions and follow the directions.

Dividing students to smaller groups in conscious manner and make average range of students in each group (from poor, average to excellent in each group) to make them work together and learn from each other, time managing in crit sessions by dividing students to different smaller groups and make the opportunity to develop their project with all of the lecturers and receive more comments from different perspectives of experts to their design process and decision making.

In this way students ensure that studio environment is not individualistic and competitive and sharing information and strategies they have developed individually needs to be shared with others and they are not benchmarked against their peers. Changing the position of jurors at jury sessions to decrease the stress level of students, allocating time for students after receiving comments from jurors to make a dialogue , give additional explanation or have some questions to clarify the vague issue in their mind, applying pre-submission sessions before final submission for students to have some rest before the final submission and get rid of sleepiness and tired of hard working to be more fresh to give the comment and learn from jury sessions, using same criteria based assessment evaluation sheet among jurors which were informed to students before submissions to be aware of the objectives, tasks and level of importance of each for grading.

Arranging a meeting before submission with invited jurors to clarify the process of the studio, level of expectations and manner of evaluation and grading. The results have shown that throughout the project the tutors had been impressed by the high level of enthusiasm shown by all the students after briefing for each action into the studio to follow up the details and objectives. Normally student participation in reviews is

limited. Some of the reasons are personal (for example students are made extremely anxious by the review situation), some are organizational and other are cultural. In this research from feedbacks and direct observations the tangible result was increasing level of confident among students to speak, make questions or justify their decisions to others compare to first sessions of studio. This derives from group working. Discussions in the group works like an opportunity to talk about ideas without fear of being exposed and better convey of comments, idea suggestions and finding faults or reuse of existing ability etc. This gives students feel more equipped in front of reviewers, more prepared to understand suggestions, more sensitive to ideas, and receive profound comments from reviewers.

In terms of student-led review sessions, tutors felt that the students would have benefited more from the crits if tutor input had been allowed. This has to be read against the general student feedback, which suggested that, the absence of the tutor voice had probably been the most significant contributor to the success of the crits in terms of participation levels, asking for feedback and encouraging constructive criticism of work. The introduction of tutor comment, therefore, must not be at the expense of the other clear benefits arising from the student-centered approach. It was might be suggested that tutors can be allowed to mop up after the students have said all that they want, however this can present its own difficulties.

This method was implemented at a student-led crit at Sheffield University, but feedback revealed a danger that students might expect the real comments to come later, thus rendering their own discussions unimportant (Nicol & Pilling 2001). So keeping tutors in silent or asking them to wait to speak make the session artificial and their participation throughout the crit session may cause the old danger of suppressing students' participation. It seems that the presence of instructors to hold on the official critique session and sum up the session is necessary, but the level of the participation would depend to the needs and conditions take place at studio. Students typically came to understand analysis in an oppositional relationship to design. Perceiving design to be the most valued element of the course, they equate spending more time on analysis with spending less time on design. The result is a narrowness and lack of depth in analysis coupled with overreliance on traditional analytic, supposedly

objective, methods of analysis. But without more depth and innovation during the analysis stage it is unlikely that more inclusive social forms will emerge. In developing the idea and decision making process which usually desk crit and one to one critique session or pin ups implement students are not brave to sketch their design properly, mostly used one A3 butter paper with a tiny sketch in a corner or even lots of unrelated and undeveloped ideas on the paper that each of them can be base of new process. They started their speech with “I didn’t work that much” or I thought a lot but ...” and even after sessions they jump from an idea to other and change their way basically.

Many factors could be the reason but all result in having little sense of control over their learning. At the very least, students should be helped to develop an understanding and ownership of the criteria and standards against which their work will be judged. This would enable them to direct their own learning and to work knowingly in directions that will be valued by tutors. Tutorial and interim reviews will have sorted out the basic requirements of the project as students come to understand that in the final crit they cannot expect to be rewarded for the meeting any stated criteria. The completed project, reviewed by invited representatives of the profession, confirms the students’ status as embryonic architects in two ways.

Students and instructors should participate in a discussion, so the culture and language of how to deliver criticism in a studio setting needs to be taught to students to learn how to receive and give effective criticism themselves. The first projects designed in proper size and time to be the warming projects and help students to enter to main project. Development of autonomy in learning requires students learn not only how to judge their own design output (product) while learning, but also how to evaluate and improve upon their own learning processes from one design project to the next. More specifically students need regular opportunities to step back from design project activities in order to analyze and evaluate how they learned through those activities and to provide their own feedback and performance judgments. Self-criticism is a behavior a student enacts while creating a design to explore possibilities, sift through ideas, ascertain a worth to them, extend the thought process to a critical level, and debate ideas inside their own mind.

Longevity of jury situation and public presentation of students' work results in the location of the jury session at the centre architecture education. Criticism in a jury situation must allow a student to express ideas for discussion with others in a process that may lead to new ideas. So there is no need to a critic with comprehensive knowledge in architecture rather to have variety range of perspectives and ideas clients, sample of users or even related fields to the design can join to the jury. In this way jury session would become intuitive, intellectual and creative.

The important point should be the explicitly of used criteria in jury sessions. Implicit criteria make the judgment subjective and mysterious. Since judgments based on the relatively explicit and formal criteria of quality of content, such as planning, analysis, communication and so on are inextricably interwoven with those based on largely implicit and thus untaught criteria of form, which occur as often unconscious judgments of students' taste and performance; their degree of success in constructing themselves also often unconsciously or by trial and error. During the long term observations and implemented model to second year design studio at UKM feedbacks shown that in constructive criticism students felt that their work and opinion had been valued.

Regarding the format of receiving criticism second year design studio of UKM have experienced, the majority of the students (40 out of 46) stated that the common type of receiving criticism on their projects is oral and that they have rarely received it in writing. Students stated their concern regarding the form of criticism they receive during and after the jury, emphasizing the fact that feedback on their projects should be offered in writing in order to maximize learning opportunities the jury process may offer whether to advance the project through interim juries, or to capitalize on their learning for future projects through final juries.

For assessment and grading teachers frequently hold on to the old ways, the proven methods, and the tested techniques. Seems they got demoralized and trying to maintain previous studio methods in the face of radical change. Especially because there is no common understanding of what grading process is in architecture and what occurs by instructors are just their own experiences from what their own professors did before.

Based on first phase of research explained in detail in chapter three and four and literature review in chapter two, many complains among students were declared about the feeling of unfairness or unreasonable process of grading. Well designed assessment is necessary in any education but not all forms of assessment can fulfill executive process of architecture education function. Used assessment and grading method in this research were based on criteria-based structure.

Criteria assessment model can be helpful to overcome arbitrariness, inconsistency, or subjectivity during the assessment process. Moreover, in this form of assessment the objectives and prior tasks would be informed to students before submission days and they can better manage the time and use their ability to gain better marks. Moreover, Students would be graded on the basis of the quality of their work alone, uncontaminated by reference to how other students in the studio perform on the same or equivalent tasks, and without regard to each student's previous level of performance.

The important thing in assessment of any design product is that designing is not simply an act of doing. If it was merely an activity based on skill, then it could be taught by instruction (Schon 1983). But we know it takes reasoning, which takes it to another level where it is now considered as praxis [execution or procedure]. Here, activities are not merely impulsive, habitual or coincidental, but rather conscious, selective and intelligent. Educators of art and architecture students create situations in which they hope the students, will find creativity, intuition and invention within themselves. So when invention of design is a creative act then its criticism and judgment should be creative and invited people to the final judgments which leads to grades, should be experts in architecture, People who won't impress by graphic, visual dimension and final products and be able to understand the vocabulary of design, potential of project, concept, idea development and design process and with deep scrutiny can understand the multilayer aspect of each design. Using specific assessment criteria in all submissions just to make sure that students are familiar with the process in this way is quite wrong. Because when there is overreliance on criteria they act as a regulatory device through which both teaching and learning practices are normalized. As a consequence anything unusual or challenging that does not conform

to the particular conceptual framework of the assessment criteria is less likely to be properly rewarded.

Thus this creates a tendency toward a strict orthodox pedagogic environment and inhibits creative responses. However, both art and design as activities have room for and should allow idiosyncrasy, divergence and uniqueness and their education should not become prescriptive. In discussed evaluation sheet in chapter three the objectives and criteria were defined separately and mentioned in detail, to avoid ambiguously or left room for hidden criteria which can affect the operate of assessment by evaluators notion and idiosyncrasy. The importance of each objective was shown based on percentage. Moreover, to decrease the subjectivity a range of 5 with definition given to jurors to easily and fast can find the obtained level of success by each student.

Students were happy of knowing about the objectives and criteria of assessment and they mentioned that it was fair and they knew that from which part they will get less mark. Also they mentioned lack of time to prepare the boards as the main reason of less marks. They mentioned that when they are slow in developing idea and solving plans and designing elevations so they will have minimum time for making 3D models, rendering etc. interestingly one student asserted that “ usually I couldn’t understand why the other project even when it looks worst than mine gives same mark, but now I can see that may be he was better than me in other part. So I feel better”. At the end of whole year for different batches (2010- 2011), (2011-2012) the level of satisfaction increased. For students it would be difficult to judge about the priority of different models because they didn’t experience other methods simultaneously but high level students’ and tutors’ satisfaction in students’ participation, constructive criticism and presentation are the symptoms of success in implemented model. To investigate about student’s perception and feelings and measuring their satisfaction from implementing models, we reanalyze the data gained from students’ interview and questionnaire. Twenty eight female and eighteen male students were part of the studio. The studio was run by 2 male lecturer and 3 female teacher assistants that 3 of them were Malaysian, one Indonesian and on Iranian. One

to one tutorials were informal crits and sometimes informal group discussions with one lecturer in each group.

During formal assessment periods such as crits or reviews, student pinned up their sheets and explained their concepts and ideas to justify their design process to lecturers, peers and reviewers. Juries used evaluation sheets to assess students work base on predefined criteria. Students were asked have they been encouraged to participate in the jury or panel discussion when other student is presenting his or her project. As figure 5.3 shows the percentage of female students who chose never is 15 percent more than male students and the total average illustrate that just sometimes students asked to attend in discussion. This supports Fredrickson's idea, (1993) that in small groups often do not receive fair hearing.

This result shows the importance of role of tutors and leaders to encourage students. Students where asked how do you usually feel after crit sessions. Interestingly 60 percent of female cited disappointed, uncertainty and confused while 88 percent of males felt inspired and motivated.

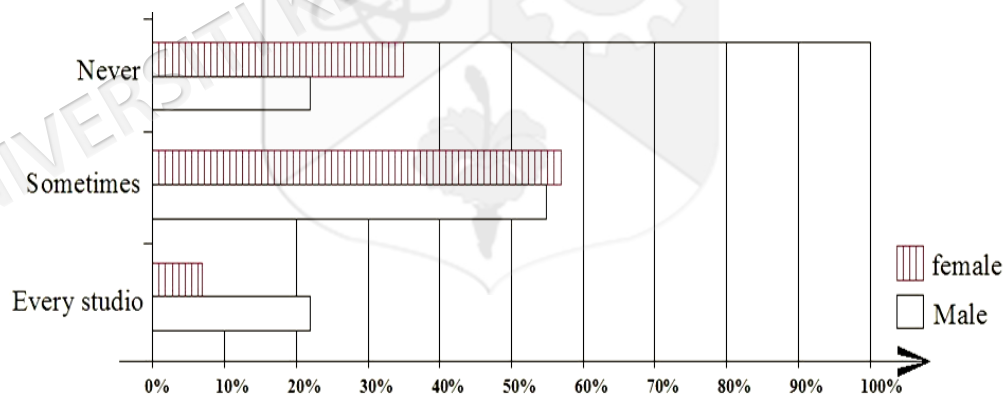


Figure 5.3 Students' responses to the question: How often instructors encouraged you to attend in discussion

Boys also complained of feeling humiliated and demoralized after receiving negative comments. But many male students view the session as just one more battle to be won. By contrast, to many women students, this warrior mentality is truly foreign, causing them to feel all the more self-conscious at the jury. Female students'

confident in crit sessions is below 50 percent but this amount is roughly same in boys and girls. Compare to male students, girls have felt less nervous in desk crits but in jury sessions boys stress decreases to below 40 percent while female students still have same nervousness. this shows that girls do not feel relax and comfortable in sessions they have to present and speak in front of other people, while boys mentioned that this would be a chance to show their talking ability and express other peoples.

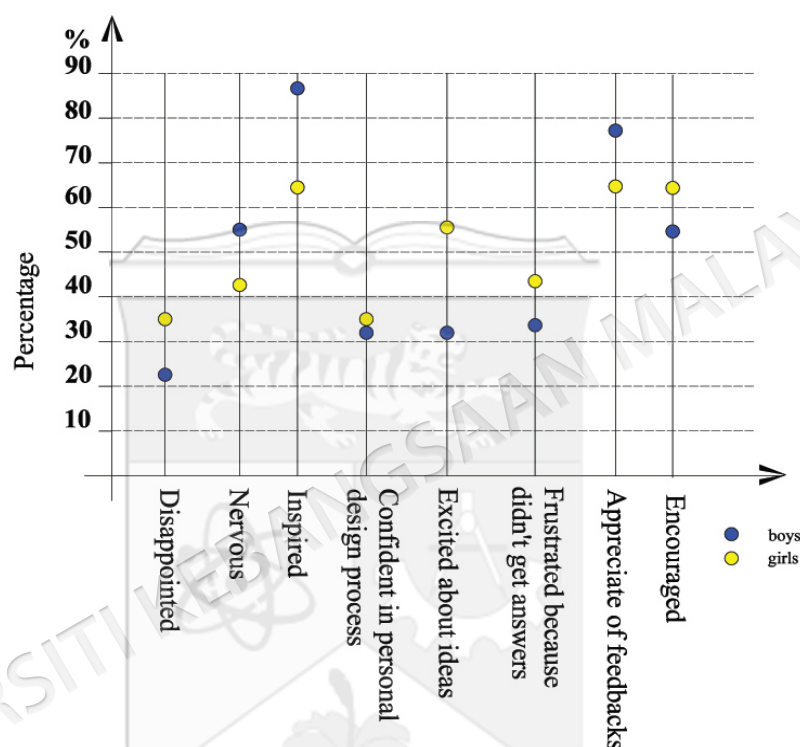


Figure 5.4 Gender based studies on percentage of students' Reaction in desk crits

Approximately 36 percent of girls in desk crits feel disappointed this more than male students in same sessions. Also female students commented that most of the time they do not get the right answer and what they should do for improvement of their project and this makes them feel frustrated (43 percent). Consequently the inspiration would be less in girls, as figure 5.4 reveals female's inspiration is 65 and boys are 86 percent. The important and interesting point here is that in most negative feelings the average percentage of taking place is below 50 percent and good feelings are more than 60 percent. This shows that the attendance of female lecturers in crit sessions will have its effective influence on girl's feelings and reactions. Like the studio, the design jury is a fundamental component of architectural education. At most schools, the

typical jury includes only men, or perhaps on occasion, a token woman. Although we see a vast number of juries in which all jurors are male, we rarely if ever see juries in which all jurors are female.

In jury sessions as figure 5.5 shows, still the frequency of feeling inspiration is still more in boys than girls but the level of confusion changes to equal level among boys and girls. This supports the idea of good influence of diverge ideas in jury session. But still girls feel disappointed after jury sessions more frequently.

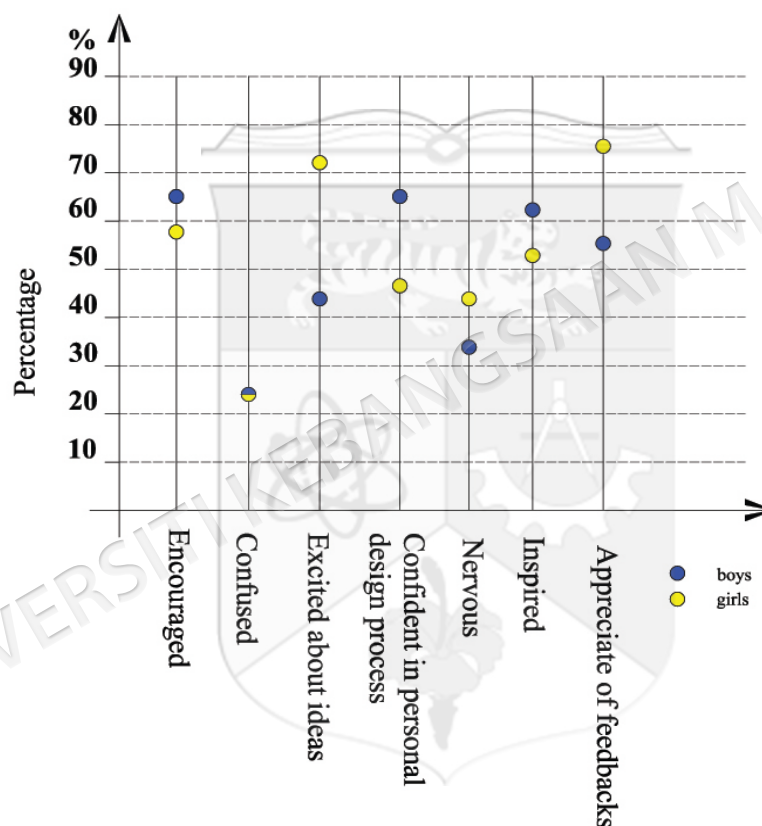


Figure 5.5 Gender-based studies on percentage of students' Reaction in jury sessions

Being more nervous in jury sessions will decrease the confidence of students in sessions and vice versa. The interesting point here is the appreciation level of students in desk crits and juries as it has shown in two figures 5.4 and figure 5.5 The appreciation of boys is in higher level compare to girls but girls feel more appreciation in juries. This may show that girls understand the meaning of comments and will receive better explanation about their faults in such sessions. Also both and girls students believed that in jury sessions most of the comments they receive are about the

spatial relations and what is related to the graphical design so they would not inspired a lot about the design process and development. These comments may bring this idea to mind that the frequency of jury sessions and the time they hold needs more consideration and should be arranged in proper time.

Compared to male jurors, female jurors receive less than their fair share of total time to comment, they speak less often, and they are interrupted more often. Compared to juries for male students, juries for female students are shorter. Female students are interrupted more often. Jurors appear to have a condescending attitude and lower expectations and demonstrate coddling behavior toward female students. Students were asked how often do you interrupted by the juries or your tutor while you are giving presentation on your concept or project. More than 55 percent of females complained that they all the time had interrupted and after that they lost they words and got more nervous.

While most of the males mentioned that they interrupted by the teacher or juries to ask questions and that help them to explain what was needed, better. In addition, research has shown that instructors give male students more detailed instructions on how to complete assignments on their own, while they are more likely to complete assignments for female students.

Done surveys in past years by Datta (2007) which discussed in literature review shows that instructors talk more to male students, ask them more challenging questions, listen more, give them more extended directions, allow them more time to talk, criticize and reward them more frequently. But interestingly in our research girls and boys cited same feelings about being rewarded by their tutors. This may derive from the number of female teachers who were attending in the studio.

Changing the competitive atmosphere of design studios to a corporative climate can help females to be able to show themselves. Results of this survey illustrate that gender differences exist in some studio contexts and these differences are part of socialization into the culture. Students leaning can be influenced by gender differences. This means that educators must recognize that design and learning

differences may reflect the different worlds in which boys and girls are socialized as well as our socialized expectations of men and women.

So teachers need to be trained about this issue to be able to facilitate the learning process. Most tutors in the studio find themselves thrust into teaching without much training in gender-sensitive teaching skills. Hence, they pass down teaching models gleaned from their own education without critically evaluating the hegemonic ideologies that may be part of these models. Adequate training of all tutors in the skills of listening, reflective questioning, and gender-sensitive attitudes and behaviors would create a more inclusive context for learning. The proposed model of assessment and grading in this research was based on criteria based models' regulation and norm. The reasons of this choose were students' preference of having same criteria among jurors in evaluating projects and the most consistency among criteria based assessment model with the named traits of good grading policies by most cited scholars.

In the context of a problem-based curriculum, integrated assessment can operate as an effective tool for learning. A properly integrated assessment structure can also help create or maintain an authentic environment in which to practice relevant professional skills, thereby increasing the perceived relevance of the skills, (Gijbels 2005) and assisting student retention of knowledge. In proposed assessment model in this research the existence of objectives and different portion of importance for each and informing this to students helped students to have their best probability of mark for each task. To make this understandable the average of three submission sessions which students were not aware of details and also jurors used the evaluation sheet but the form of marking were holistic, they just given the percentage for each of criteria were compared to the obtained grade on the specific session.

The investigation as figure 5.6 reveals shows that student number four and number twenty has maximum progress and student number 7 and 18 have regressed. But the reason their regress seems to be lack of time for preparation in submission day. In their evaluation sheet for instance jurors have mentioned that the unfinished 3D model or absence of one or two elevations. In most performed students group also

we have some small progress, especially for student number 12 and 16. In total, summations of progresses were more than regresses. The summations of marks are the evidence of this claim. Summations of marks from 1204 unit go to 1261 unit. This means 4.73 percent progress.

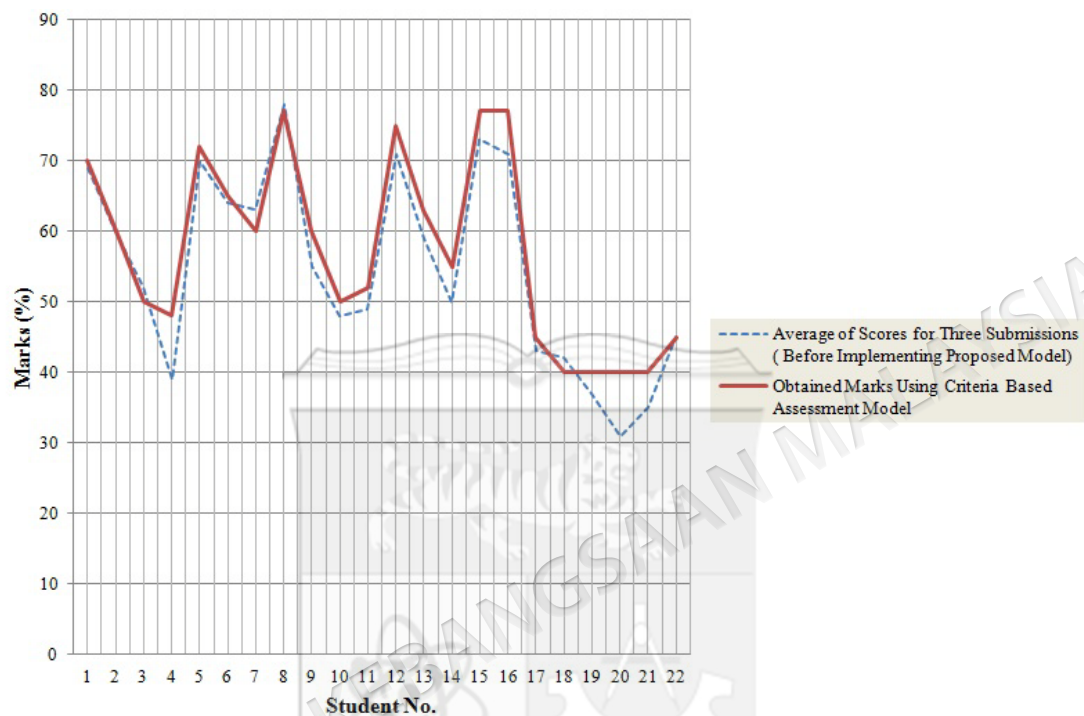


Figure 5.6 Improvement of marks after using proposed model

All these make the idea of having more discussion session among invited jurors before holding submission session and explain the jurors about the objectives and expectations.

5.4 COMPARISON OF RESULTS AMONG DIFFERENT COUNTRIES

To compare the results and findings of such studies the obtained data have compared with the investigations in Manitoba University 2001 as part of an undergraduate research methods and Misr International University in Egypt, which has done in 2010 and school of landscape architecture school of Louisiana University shows that the overall results indicate similarities between different countries (Salama 2010; Graham 2003). The factors and questions considered and asked respectively has some differences but the overlap targets were considered as comparative items. These done

researches has confined to problem statement and some primary suggestions that not impelented to studios to study the effectiveness. Figure 5.7 reveals the comparative data obtained from sapmle of students in Malaysia and Canada.

Reactions	Malaysian		Canadian	
	Desk crit	Juries	Desk crit	Juries
Appreciative	70%	74%	84%	64%
Receptive to feedback given	60%	56%	79%	56%
Ready to try new things	47%	56%	60%	47%
Encouraged	60%	61%	60%	44%
Excited about ideas	47%	60%	58%	42%
Confused	52%	22%	53%	23%
Inspired	74%	52%	49%	40%
Confident in personal design process	48%	50%	47%	47%
Disappointed	30%	22%	33%	23%
Nervous	33%	35%	26%	42%
Defense of ideas	44%	48%	23%	33%
Resistant to take advice	44%	31%	14%	9%
Indifferent	47%	39%	5%	5%

Figure 5.7 Comparative data - How frequently students face these feelings in crits

Results shown that Malaysian students have better experience and reactions in jury sessions compare to obtained results from Canada and the level of confusion, disappointments are very close in jury session. In desk crits Canadaians shown better feelings and experience specially in recptivness of given feedbacks, ready to try new things, Exciting about ideas.

At the same sessions the encouragments and confusion are raoughly same. Figure 5.8 reveals the obtained results From Egypt and Malaysia. As it is obvious the high level of presentation impact on the jurors in both countries and more preference among students to have criteria based assessment model. Both countries were eager to have more invited externals to the studio.

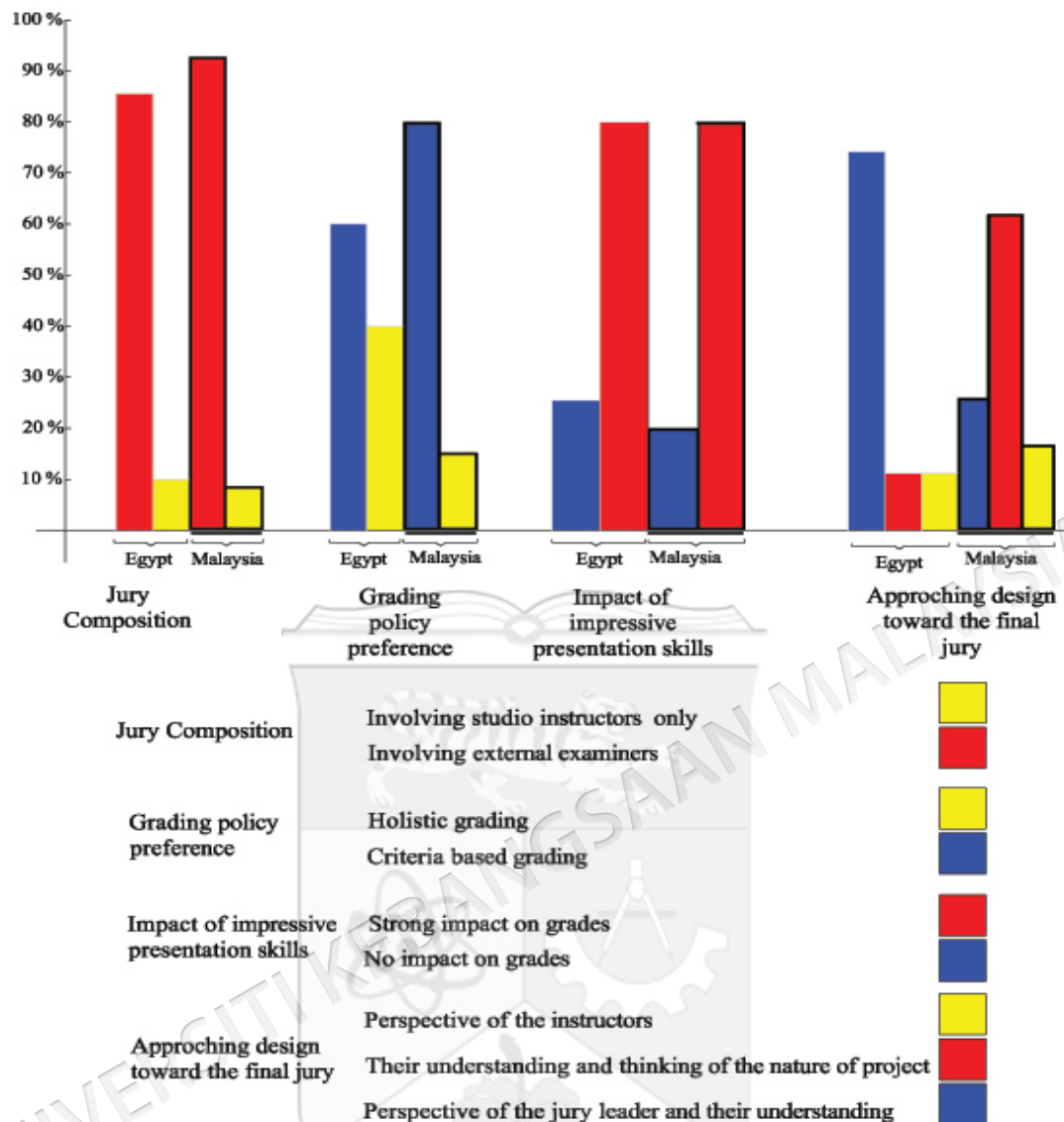


Figure 5.8 Comparative studies on students' preference in following questions

In grading policies high level of preferences goes to criteria based assessment model in both countries but as figure 5.8 shows Malaysians have shown more enthusiasm in implementing criteria based assessment model in critique and submission days compare to holistic model. This may root in better understanding of definitions of these models or have more experience in each of them. In terms of approach to design in final jury as it is obvious most of the Egyptians chose following the perspective of the jury leader and their understanding but Malaysians were prefer their own understanding and following the nature of the project.

Both of these have some advantages and disadvantages which can affect the learning process and final product. By the way these researches are good to clarify the problems and reveals that these problems are not specifically related to some factors and conditions like culture, background, countries etc.

5.5 CHAPTER SUMMARY

In summary, the data collected on this issue suggests that students, across the years and in their respective ways, do recognize the review as an important forum for learning. But it also suggests that the lack of a shared perspective by staff on the purpose of the review, and the subsequent randomness of their selection of issues for discussion, may impede students' coherent understanding of the material. Therefore the project review, as traditionally conducted, is not as fully effective a learning context as it might be. The data suggests that for a range of reasons, and despite tutors' encouragement, student participation in reviews is limited. Some of the reasons are personal (for example students are made extremely anxious by the review situation), some are organizational and other are cultural.

Architecture is a discipline in which individual recognition is the reward and some of the students admitted to enjoying the public display and defending their design. Whether an unspoken agreement exists within review groups that discourage the practice of commenting on another students' work is unknown, but it is a possibility. Nevertheless the tutors agreed that students learn through discussion, and they supported the mandatory training of students in interaction skills. The importance of students acquiring and demonstrating communication skills during their course was a strong theme in the tutors' responses. There was little evidence, however, that students actually participate, either fully or regularly, in the discussion of general topics or of other students' work in the project review. The students made a large number of comments that were critical of the organization of the review- they would have preferred a more disciplined event. The tutors too were critical of some organizational aspects of the traditional review process. For students, it would be difficult to produce concrete evidence that the system is better than the previous one, partly because it is still evolving and changing the partly because the students

currently in the school know no other systems. Based on first phase analysis a crit process has defined and the studio left under direct observation for whole year for different batches.

After each session students were asked fill up a questionnaire which were included smiley icons in five levels. This format has chosen to be more easy and fast for students to fill. Finally these five turned to liker scale and analyzed. In summary, sessions proved that recommendations increased efficiency of crit sessions.



CHAPTER VI

RECOMMENDATIONS

6.1 INTRODUCTION

In order to cope with the knowledge explosion and the rapid rate of change in society, architects like other professions need to develop the habit of monitoring, evaluating and managing their own learning and of learning from practical experience. It would be naive to deny the existence of problems in current design studios and just follow the mystified ritual. It is important to acknowledge the benefits of current model and try to reuse the potentials, break down the unwanted structures and merge students' point of view to tutors' perspectives in critique format. Education in general and schools of architecture in particular have witnessed considerable change over decades.

Most have increased their student intake and reduced the number of tutors and are trying to retain the same academic standards in a much shorter academic year. It has also required teaching to become much more quantifiable. Teachers are expected to reduce students contact time in order to maintain a cost effective staff-student regime and staffs are expected to recruit and teach more students in less time. The studio culture traditionally has involved one to one tuition, which many schools can now ill afford. The design focus is self absorbing and time consuming and its evaluation involves assessing the designed artifact rather than the student's academic progress. So the critique sessions as the maximum part of design studio should be accurately designed to be the most effective.

Based on discussions mentioned in previous chapters (chapter four and five) the traits of effective evaluation and grading model from students' point of view are tabulated in table 6.1. As it is obvious they believed that criteria based model is much

better because in this method there are some criteria which is same among jurors and they are aware of it. So they can work on parts that they are more talented or skillful and in this way they can get better marks. They also added that using same criteria among jurors especially when there are some invited external examiner will help to gent converge comments and specially better marks.

Table 6.1 Traits of effective assessment model base on student's expectations

Number	Description
1	Dialogue feedback and give chance to students to defend their project
2	Using same criteria in assessment between jurors
3	Jurors assess the design process and not only the end product
4	Self referenced assessment, based on students previous performance level
5	let students know about the criteria of assessment before submission day
6	Students work are graded base on the quality of their work
7	Criteria are defined base on course objectives
8	Course objectives divided base on their priority and dedicated different portion of grades base on this.

To reach these expectations and make critique sessions more effective, all the aspects of design studio should be under strong scrutiny and improvement. One of the great interests is how, across the years, students vary in the way they utilize the review as a context for learning.

For example first-year students attribute to their tutors are almost parental interest in their work, and they look to their tutors for support in helping them to access the discourse of architecture. By the third year, however, students view their tutors primarily as a source of expertise, or technical advice and guidance. Similarly, first year students refer to the review as a chance to pick up ideas and to compare themselves with their peers in order to confirm their position as a member of the

group. In contrast third year students refer to the review as a chance to test out their own ideas and to assess, either individually or as a group, the ideas of their fellows. Requiring the students as teachers to reexamine the issues critically and find effective ways of communicating their thoughts to others.

6.2 RECOMMENDATIONS

In critique sessions learning takes place through critical reflection and simultaneously assessment and evaluation are using this method. In early stages of architecture education; especially second year design studio, jury sessions like desk crits and pin ups works as experience and would help them to learn from their own and others mistakes, problems and challenges. So to improve all types of crit sessions in second year design studio at Universiti Kebangsaan Malaysia, there would be some recommendations which are presented below.

6.2.1 Developing Communication Skills

This communication in design studio embraces numerous forms, such as oral discussion, visual or verbal presentation and written form. On the other hand this communication takes place some times between students and peers, students and instructors, students and jurors. Even in real professional world they will need to these communication skills, communication with architectural team, clients, and engineers are some examples.

Second year design studio is a crucial stage of learning in communication skills, this level is best place of gaining experience of how to give and receive comments, tailoring their presentations to needs and expectations of different group. In all transferable skills the necessary skills would be how to listen, understand and negotiate. Verbal communicators must be founded in attitudes that respect other people's point of view and actively seek their ideas. They must be able to listen effectively, recognizing and utilizing the different ways and the importance of checking to understand what is said, instead of assuming they do. They must know how to develop dialogue around representation of design proposals. To help students

have active listening, in this study, students have offered a time to sum up and collectively reflect on ideas that were discussed during a jury.

On the other hand, in architectural design, drawing whether with pencil, models, computer or whatever, is a key tool of communication, first of all with students themselves, instructors, clients, users, real or imagined. As students and instructors mentioned in personal interviews and discussed in chapter four and five, presentation skills can influence the jurors' comments and attitude to students' final product.

In fact it becomes an object of dialogue positing the audiences. In architectural education at present, presentation tends to be taught primarily as a matter of practical skill. The self-assessments of strengths and weaknesses of students at UKM revealed that students had greater confidence in their design creativity, artistic and technological ability than in communication skills, organizational ability and group working. So students need to be encouraged in presentation to put more time into preparing the presentation and they will benefit from this. It seems that the combination of lack of design education, lack of design skills and even the lack of the right vocabulary to express design ideas has led to a crisis of confidence among planners. The use of appropriate language and the ability to engage in one to one dialogue are essential skills here. Moreover allocating sessions to do the presentations and making models at the studio under supervision would be a suitable solution.

6.2.2 Developing Team Working Skills

Group working on designs in this research is normally restricted to the early research stage of a project, with the final design invariably produced and assessed on an individual and competitive basis. Hence assessment processes in schools do not specifically encourage students to share and develop their ideas with each other. Evidence of this research and Graham (2003) shows that team work can produce a significant improvement in the quality of student work.

While the typical work on group projects with other students enables the students to get know about others, it will help students to see where they have been

and where they are going. Group learning gives students practice in thinking and explaining, it increases learner activity, it exposes students to multiple perspectives that help develop stronger and more elaborated thinking, it provides opportunities for students to support each others' learning, which is profitable for the teacher as it is for the students being taught.

There are two other reasons for increasing the amount of group work in courses for the architecture profession. Firstly group discussion on learning tasks increase the focus students on the processes of learning. Projects of this kind give important roles to students who may not be brilliant designers but may have other strengths and abilities to contribute within a team. Finally, it is recognized that the small number of participants in this case study mean that the results must be treated with caution.

Furthermore the staff to student ratio was very high, which allowed a great deal of time and attention to be given to the students by tutors. This might have been a significant factor in the project's success. Instructors in such group projects, need to learn how to integrated teams and act not as architects or engineers, but as quasi renaissance men and women. Ways need to be devised to raise awareness in students that even in a homogeneous group such as their own there are differences in needs, desires and perceptions of space.

6.2.3 Practical Projects

The design education should not be an isolated indoor activity, disconnected from tangible experience, real problems and cities in which we live and work. The elimination of the four walls of the studio would offer additional learning benefits to students. By integrating learning opportunities across practices and academic institutions, rather than offering an either or in or out situation, students, education and practice can gain more benefits.

Learning through practice, rather than just learning in practice, has considerable potential. When a project has a social relevance, it becomes more than a building; it becomes a bridge between school and practice, faculty and student, and student and

community. In this research second year design students in the project of working on real site near Nilai which were two mosques (old and new) opposite of each other. In this case students were more eager to produce creative concepts and idea, they also tried to produce more practical projects instead of imitating famous architects. Some students who were not that good in previous projects and had minimum crit with instructors spend more hours discussing with tutors, peers etc. the obtained results from students in periodic investigation (questionnaire with smiley faces) confirm this claim.

6.2.4 Student-led Review

The greatest contribution any educational establishment can make to its graduates is to provide them with the self awareness and abilities to learn in whatever context they find themselves throughout their lives. In the 1970s the school adopted a unit system of teaching whereby students were grouped in so-called work bases, each led by one tutor. By changing the climate of learning and teaching the school's philosophy changed to student centered learning over a more didactic approach.

Learning is a mutual endeavor undertaken by students and instructors, embracing various active learning approaches that value the voice and contributions of all participants. The key strength of the student learning contract is that it encourages them to take some responsibility for their own learning. an obvious addition to the induction program would be workshops to help prepare second year students for self directed learning particularly those who in the past have been subject to a great deal of teacher directed learning.

For example students could be asked to compile a personal profile of their present knowledge and competencies and their future learning aspirations. This would encourage a deeper analysis by students of their own learning goals, which could be compared against the learning goals of the module during the selection process. Creating a profile in this way would also help students recognize and value their own abilities. This would be the first step in getting students to think for themselves and have more control over their own learning. To encourage self directed learning, the

tutor must show respect for the students' ability to analyze their own learning needs and also encourage their active participation in all aspects of the negotiation process. In summary the tutors' and students must enter into the process in good and clear understanding of their individual roles and responsibilities. Being supportive whilst at the same time remaining non directive can be difficult and some students have noted that some personal tutors do not really want to take on the role. Creating a frame work for monitoring and giving credit to the students for demonstrating self directed learning skills such as goal analysis, periodic review, reflection on personal development and self evaluation might be proper solution. The student-led review can develop as an experimental alternative with three primary objectives; increasing students' participation, encouraging them to gain skills in presentation and asking for feedback and finally encourage students constructively to criticize their own work and other.

6.2.5 Process over Product

Evaluation of architecture primarily by the industry itself is presently weighted towards judging how innovative the form (the physical object) is rather than the innovative of the process (the building in use). The creators of innovative forms act as role models for students, with the result that students invest most of their study time in the design form. Students should be encouraged to address the process issues that arise out of multidisciplinary work, confronting the problems and opportunities, alternative ways of achieving more explicitly, rather than being left with a vague notion of what went right or wrong. This could then be used to feed their approach a learning style prompted by Kolb (1984).

Evaluation and assessment systems, in the profession and in schools of architecture respectively, must establish an appropriate balance between process and form. On the other hand using criterion-referenced assessment applied by teachers and students can draw attention to the processual dimensions. In this context, we can derive that criteria-referenced assessment helps students to develop the notion that process is as important as the product. Process, in this regard, is synonymous with the ability of a student to self-evaluate oneself and to be to develop skills to tackle

complicated problems in an independent and confident way. Assessment should be seen as an instrument for focusing both the instructors' and the students' attention onto qualities that foster learning.

6.2.6 Using Different Forms of Review

The review needed to be more clearly structured; learning outcomes should be explicit and students should receive consistent feedback; and the status of the review-assessment or learning opportunity, should be clarified. The review should be more closely reflect the range of skills needed by architects in professional practice, with particular reference to communication with clients and users.

It should develop and build these skills cumulatively during the undergraduate course. The tutors should be reminded that different students have different skills, for example verbal communication or talking the lead in team work, and that these should be encouraged, rather than expecting all students to be excellent designers. Table 6.2 shows the alternative formats for design project reviews. Some of these were derived from occasional experiments in this research (UKM as case study); others were new ideas for introducing explicit skill training into the review and the origins are coming from literature review.

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 and 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 which discussed in chapter three, four and five of this research. 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. Alternative formats for design project reviews are as tabled below. Some of these were derived from occasional experiments in the past; others were new ideas for introducing explicit skill training into the review.

Table 6.2 Alternative formats for design project reviews

Format	Method
Traditional	Conventional review format for an academic audience, well organized, clear objectives, normally two staff, twenty minutes per student.
Selective	Staff reviews submission without student's present, staff present summary of main issues to whole student group based on selected examples.
Talk	Illustrated verbal presentation, using slides or OHP-group work
Client	Presentation to real or role-playing client, based on models, 3D graphics.
Meeting	Short individual presentations in a small group. Group establishes common agenda for discussion and decisions; student- led.
Brochure	Individual or small group team work in brochure format, using text and images; round table discussion.
Exhibition	Self – explanatory display, in poster or panel format; private review by staff, short discussion
Computer	Computer based presentation, text and graphics etc.

6.2.7 A Wide Variety of Jurors

Students and teachers would like jury panels to be composed of a variety of people to offer students different viewpoints the feedback they receive. Wider range of people could be invited into schools of architecture, as consultants or participants, feeding into the education of architecture students. Students would appreciate the different viewpoints that each speaker has brought. Outside jurors may also include other universities' faculty from other design-based curricula, such as, architecture, art, sculpture, photography, etc. The jury panel may also be composed of students who are required to do jury duty. A vast resource of knowledgeable students is available in the department of architecture who could give feedback to their peers.

6.2.8 Break the Studio Class into Smaller Groups for Juries

Having smaller juries would allow for more time and attention to be given to individual projects; allow for easier discussion; and help keep the students attention. One disadvantage for students in dividing a studio into smaller groups for juries would be they would only see and hear the feedback given to a limited amount of projects. Although, the feedback given from students implies the quality feedback over the quantity of critiques is desirable.

6.2.9 Better time management of the jury process

Better time management of juries would include limiting the time in which each student has to present his ideas and allowing the same amount of time for feedback to be spent of each individual project. A time schedule for a jury would also help keep the discussion focused, and comments brief and concise to the students focused and interested in the discussion.

6.2.10 Different day for submissions and jury

Students to be attentive and participate in a jury discussion, the jury for a project should not be held on the same day the project is submitted. Well rested students would be more focused, better prepared for presentation and responding to the questions. They would be better speakers, with more confident and even better dressed.

6.2.11 Obtaining Periodic Feedback from Students

During this research, students were invited to talk about their experience after each session of design studio, fill the questionnaire or attend in interview and explain their expectations. Increasingly after two month they mentioned that this is the first time they feel they are important, and welcomed to informal feedback. Some asserted that after a while they felt some tangible changes in their learning process. It would be another recommendation to all design studios to spend some time at early stage of

semester to explain students that there is no way to have effective learning models unless their learning process examined. Tutors need to know which of their messages are getting through, which are creating problems for the students, and what questions are troubling them. Tutors should make it clear that they would welcome informal feedback at any time and periodic discussion about the process implementing at the studio, their expectations etc.

Finally based on what is mentioned in tutors interview in KM, is the number of studio teachers in schools of architecture have not received formal teacher training. They generally come straight from academic or practice and tend to replicate their own student experience whilst learning on the job, and therefore tend to lack understanding of the theory of educational processes; this makes it difficult for them to be objective about defining explicit teaching and learning outcomes within the holistic teaching environment.

The tutors have the explicit responsibility of advancing the art of architecture in their own way, as well as developing the potential of each student for whom they are responsible. It is in the nature of the studio principle for the tutor to be exploring unknown territory with the students for whom he or she is responsible. As Kevin Rhowbotham (1995) has remarked: “It is customary among practicing architects to assume that those who have achieved some degree of experience are automatically equipped with all that is necessary to teach. The skills which are required to teach successfully cannot be acquired in the context of practice. Teaching is a separate order of things, tied to practice certainly, but by analogy, not by stricture.” Moreover they inherit a tradition that relied on high levels of teaching. So the needs to have trained teachers in the studios, is undeniable. Holding workshops, forums and conferences or joining part time lecturers to the studio team under an expert and experienced master of studio will improve the teaching and learning.

6.3 CHAPTER SUMMARY

In summary, based on problems which were stated by students, teachers and direct observation, recommendations were presented. List of recommendations are

developing communication skills, developing team working skills, practical projects, student-led review, a wide variety of jurors, obtaining feedback from students, product over process to find the balance, a wide variety of jurors. Recommendations and their reasons, needs and conditions were discussed in detail and they are deriving from the literature review and implemented program in the studio and some occasional experiments in this research (UKM as case study).



CHAPTER VII

CONCLUSION AND FUTURE WORK

7.1 CONCLUSION

In this thesis, the focus is on evaluating the current crit sessions in architecture design studios and giving new framework and guideline for it to improve both leaning and teaching methods. Crit sessions and assessment tools tested out in practice in the context of a large scale project. Studies with a wide range of evaluation and assessment practices are used to collect evidences from students how they distribute their effort in relation to critique and evaluation demands, and how they respond to feedback.

These evidences are used to diagnose potential problems, making changes to address these problems, and then evaluating whether the changes have had positive impacts on the ways their students go about their learning. This is much like any action research process. The integration of qualitative and quantitative analysis methods, here, provided a broader perspective for the understanding of the reality, requirements and needs in design studios. Feedback from students and teachers at Universiti Kebangsaan Malaysia has provided a valuable beginning in discovering the expectations students and teachers have of the learning situation owed to both parties during a jury session. The feedback has also begun to shed light upon where the expectations are not fully being realized because of various reasons. Student and instructor's expectations can be fully realized with a concerted effort by teaching, learning, and utilizing the art of criticism in a design studio.

To achieve the first objective of the research which is to document, study, explore and analyze different type of approaches, methods and practices of critique

session from different architecture school and creative education all over the world, due to lack of comprehensive literature review and report, the extensive study has done on critique theories and implemented models. The aggregate of investigation have shown that implemented models have inherited from precedent models without criticizing or essential improvement after years and decades. The obvious issue was the concerns of this repetition and declaration of necessity of using tailored models to the needs of new generations.

In today's global village that art and science are developing all around the world, and all people with any race and gender and color, in different places but simultaneously are trying to learn or teach and ultimately what is taught is approximately same, is it fair to consider that the result of architecture education process, is same as what is going on in hundred or even thousands international commercial products which are mass producing? Once a technology is developed in a certain country, it's know- how can be instantly spread out all over the world, neglecting the cultural aspects of countries to or from which it propagates . On the contrary the spiritual and cultural aspects of human life, namely, how to enrich men's day by day life, cannot easily be communicated. The interchange of man's cultural aspects is not as easy as that of materialistic ones.

Architecture education is a phenomenon that involves relationships that associate the personal characteristics, needs, attitudes and intentions of the studio master, juries and student's participants with the sociopolitical characteristics and educational philosophies of the school. Each student learns things based on their perceptions of their social world and their aspiration. In learning process ability, environment, background and talent have an effective role. These factors shape students unique experience and their approach to design problem. When these factors change, leadership style and behavior should accommodate.

To address the second objective of the research which is to develop the idea of critique sessions (desk crit and jury sessions) based on tutors and students experiences, comments and direct observations, Second year design studio as case study, different type of questionnaires and interview have used for instructors and

students in different time schedules. The records have shown that both instructors and students were not satisfied with current models but their perceptions to critique session and its goal were far apart. The students made a large number of comments that were critical of the organization of the review; they would have preferred a more disciplined event. The tutors too were critical of some organizational aspects of the traditional review process. Lack of students' participation, lack of the benefits for the people who should benefit from sessions, spontaneous comments and subjective evaluation, ambiguous assessment and grading were some of the issues were reported by students and instructors.

Large amount of students at the jury session and long duration waiting for their turn to present, hidden agendas among jurors, lack of transparency in grading, fixation on certain design issues while ignoring or simplifying other design issue that leads to boring and repeated discussion, weakness towards strong presentation versus commitment to design standards and program requirements, showing off to impress certain audiences whether students or jurors are the reality of design studio, priority is given to design as product in terms of visual or graphic output rather than to design as a dynamic and interactive process. Students are not usually rewarded explicitly for their analysis of user or client needs unless they result in a creative addition to the conceptual design proposal even though a great deal of analytical thinking may have been undertaken by students.

Students prefer play for more active roles in the evaluation of their achievement. The construction of tasks, the development of criteria for the evaluation of performance and the scoring of the performance may be shared or negotiated among teachers and students. So based on reported problems, concerns and expectations some recommendations were proposed and applied to the studio. Surveying students feeling, tutors opinion and direct observation have shown high level of students' participation, improving presentation skills and more constructivist criticism at the studio. These show that suggestions were effective. Another avenue of research should be concerned with assessing the quality of alternative assessment tool, and determining their strengths. Each assessment format serves a different purpose and it remains to be investigated which ones would be most constructive in the architecture

studio. A pluralistic assessment program needs to be developed in order for the final product to have widespread utility so criteria-based assessment has proposed as assessment model.

For standards to function properly for both formative and summative purposes, they need to be established, and made accessible to students, before and during the course, to the university teacher or assessor, so that the students' work can be appraised within that framework, and to the panels that review grade distributions. Only then can proper discussions take place about what standards mean. Only then can the appropriateness of the standards employed be subjected to scrutiny. Only then can proper judgments be made about the quality of student work submitted for marking. And only then can the legitimacy of those judgments be vouched for.

7.2 SIGNIFICANT CONTRIBUTION OF THE RESEARCH

The major contributions of this thesis are as follows:

- i. Feedbacks from second year students and teachers at university kebangsaan Malaysia have provided a valuable beginning in discovering the expectations of them from the learning situation during critique sessions. The feedbacks have also begun to shed light upon where the expectations are not fully being realized. Students and instructor's expectations can be fully realized with concentrated efforts in teaching, learning, and utilizing the process of criticism in second year design studio at UKM. The study allows for collegiate architectural administrators and head of architecture department at UKM, students, educators in architecture to understand the perceptions that second year students have their learning experiences in their studios such as how is benefiting from the critique sessions and how should benefit, goals of individual critique sessions and juries, evaluation and comments, common reactions and the reason of them, participation in discussion. This research has tried to bring these expectations come to fruition.

- ii. This study has proposed recommendations such as team working , time managing, having dialoging feedback, giving written comments and etc that they enable individual members of Universiti Kebangsaan Malaysia to develop their own interests and to develop their own teaching techniques to ensure that all second year students have equal studio tutoring. This study has shown that using these recommendations has improved the satisfaction of second year students and their tutors' from each critique session at UKM.
- iii. Introducing an approach that recognizes the relevance of a variety of review methods such as individual critique, formative critique, summative critique, peer review, group critique, public critique, seminars, written critique, and panel discussion, for different teaching contexts in second year design studio of UKM, rather than the adoption of one model to cover every situation.
- iv. This study explore ways of conceptualising standards and negotiate to arrive at a consensus on appropriate grading standards which are reliability, practicality, integration and alignment with learning objectives, to provide opportunities for second year design studio students at UKM to have proper evaluation.
- v. Criteria-based assessment and grading model is discovered to be more effective model in promoting student learning and to make assessment and grading less mysterious, more open and more explicit the grounds upon which the second year design students productions are graded.

The crit as a social event and a central pedagogic strategy is unique to design education. If it is to be relevant for today's world it is reviewed for its appropriateness in all three respects: content, form, procedure. In the short term it seems likely that each higher education institution will try to find its own solutions. In the longer term we should learn from the successes and failures of these various attempts in order to determine the most effective methods of fostering interdisciplinary working within programs of study. Without these minor changes in course structures and learning methods such as those proposed will only result in minor changes in outcomes.

7.3 SUGGESTIONS FOR FUTURE RESEARCH

Architectural education should not adopt educational tools developed in the past without addressing the practical realities of contemporary learning, assessment, communication and design discourse. While addressing the unique peculiarities of each project and year level, such frameworks need to emerge from the specifics of a school of architecture, its faculty profile and its student's body. Students entering academia are increasingly representative of a greater diversity of ethnicity, culture, class, age and gender and are now a potential source of a more cosmopolitan social exchange.

Uncritical acceptance of the inherited legitimating procedures of representation and professional initiation rituals of architectural education helps to reproduce a model of architectural practice and of the role of the architect as self selecting elite of immaculately conceived creative individuals. This model is increasingly out of date and inappropriate to today's society. Change is always inevitable, even in architectural education. But for change to be constructive it must respect existing contexts and accommodates some of traditional approaches in architecture education.

The proposed model and primitive suggestions of this research for critique sessions in second year design studio in pedagogical context have been found very effective and successful. For further development of this research work, some of the possible future works in this area are suggested as follows:

Proposed changes of this research to the jury system, as mentioned before, have already allowed second year design students greater involvement. Most of the alternative review procedures that allow greater student participation provide greater learning potential for the student, which is obviously important. While students were engaged in outlining the architectural program, they were not involved in establishing the rubric of rating criteria. If students are to produce good quality work they have to be able to learn to recognize criteria of judgment, which entails an understanding that criteria are constructed and are therefore susceptible to testing and challenging. Future

studies may plan where students will collaborate in compiling the architectural program, as well as specifics of the dimensions along which they will be rated.

Further research on the subject, may chose bigger sample and focus on gender-based problems, needs and expectations. Future research on critique may consider studying the perceptions of graduating architecture students and their experiences and suggestions. Comparing undergraduates with graduating students can help to reevaluate recommendations and introducing more effective models for critique sessions in undergraduate years.



REFERENCES

- Abdul Aziz, A. & Masodi, S. 2008. Application of Rasch model in validating the construct of measurement instrument. *International Journal of Education and Information Technologies* 2: 105-112.
- Argyris, C. 1981. *Architecture education study, 1: The papers*. Andrew W. Mellon Foundation.
- Ahrentzen, S. & Anthony, K. 1993. Sex, stars, and studios: A look at gendered educational practices in architecture. *Journal of Architectural Education* 47(1):11-28.
- Akin, O. & Akin, C. 1996. Frames of reference in architectural design: Analyzing the hyper acclamation (A-h-a!). *Design Studies* 17: 341–361.
- Al-Mogren, A.A. 2006. Architectural Learning: Evaluating the Work Environment and the Style of Teaching and Management in Design Studios. *Alexandria Engineering Journal* 45(5):1-14.
- Andel, J.S. & Seidel, A. 2007. Shifting balances: Changing roles in policy, research, and design. *Eindhoven, Netherlands: EIRSS*: 128–139.
- Anthony, K. H. 1987. Private Reactions to Public Criticism; Students, Faculty, and Practicing Architects State Their Views on Design Juries in Architectural Education. *Journal of Architectural Education*: 2-11.
- Anthony, H.K. 1991. *Design Juries on Trial, the Renaissance of the Design Studio*. New York. Van Nostrand Reinhold.
- Anthony, K. 2001. *Designing for diversity: Gender, race, and ethnicity in the architectural profession*. Champaign: University of Illinois Press.
- Astin, A.W. 1991. *Nine Principles of Good Practice for Assessing Student Learning*. The American Association for Higher Education.
- Astin, A. 1993. *What matters in college*. San Francisco, CA: Jossey-Bass.
- Attoe, W. 1978. *Architecture and Critical Imagination*. New York. John Wiley & Sons.
- Austerlitz, N., Aravot, I. & Ben-Ze'ev, A. 2002. Emotional phenomena and the student–instructor relationship. *Landscape and Urban Planning* 60(2): 105–115.
- Baron, A. & Boschee, F. 1998. *Authentic Assessment: The Key to Unlocking Student Success, Unlocking Student Success*. Technomic Publishing. Lancaster. PA.
- Berrizbeitia, A. 1997. Landscape Architecture Criticism.” *Land Forum*: 9-10.
- Biggs, J. 1987. *Student approaches to learning and studying*. Melbourne. Australian Council for Educational Research.

- Biggs, J. 1992. A Qualitative Approach to Grading Students. *HERSDA News*.
- Biggs, J. 1999. *Teaching for quality learning at university: what the student does*. Buckingham, UK, SRHE & Open University Press.
- Black, P. & Wiliam, D. 1998. Assessment and Classroom Learning. *Assessment in Education: Principles, Policy and Practice*.
- Board of Architecture Malaysia. 2005. URL. <http://www.lam.gov.my>.
- Boyer, E.L. & Mitgang, L.D. 1996. Building community: A new future for architectural education and practice. *Princeton, NJ: Carnegie Foundation for the Advancement of Teaching*.
- Brady, D. 1996. The education of an architect: continuity and change. *Journal of Architecture education* **50**(1) : 32-49.
- BrockBank, A. & McGill, I. 1998. *Facilitating reflective Learning in higher education*. Buckingham:Society for research into higher education and open University Press.
- Brown, S. 1999. *Assessment Matters in Higher Education: Choosing and Using Diverse Approaches*. Maidenhead: Open University Press.
- Brown, G. 2001. *Assessment: A guide for lecturers*. York: LTSN Generic Centre.
- Brown, S. 2003. Assessment that works at work. *The Newsletter for the Institute of Learning and Teaching in Higher Education* **11**: 6-7.
- Caine, R. N. & Caine, G. 1997. *Education on the edge of possibility*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Canon, R. & Newble, D. 2003. *Handbook for Teachers in Universities and Colleges : A guide to improving teaching methods*. London: Kogan Page. Ref: SPL-26-766 Santry.
- Carlson, T. 2000. Implementing Criterion-referenced Assessment within a Multi-disciplinary University Department. *Higher Education Research and Development* **19**(1) :103-110.
- Cees, P.M. 1996. The Assessment of Professional Competence: Developments. *Journal of Research and Practical Implications, Advances in Health Sciences Education* **1**(1) : 41-67.
- Chafee, R. 1977. *The Teaching of Architecture at the Ecole Des Beaux-Arts. In The Architecture of the Ecole Des Beaux-Arts*. Cambridge, MA: MIT Press.
- Çıkış, S. 2009. Problematization of assessment in the architectural design. *Procedia Social and Behavior Science* **1**(1): 2103-2110.
- Cowan, J. 1998. *On becoming an innovative university teacher: Reflection in action*. Buckingham: Society for research into higher education and Open University Press.

- Crooks, T.J., Kane, M. & Cohen, S.A. 1996. Threats to the Valid Use of Assessment three Assessment in Education 3(3): 265.
- Cuff, D. 1991. *Architecture: The story of practice*. Cambridge, MA: MIT Press.
- Cuff, D. 1998. *Architecture: The Story of Practice*. Cambridge: MIT Press.
- Daracott, J. 1991. *Art Criticism: A User's Guide*. London: Bellew Publishing.
- Darus, M.Z., Hassan, F., Saruwono, M., Omar, Z., Samad, Z. & Muhamad, F. 2009. Continuing Professional Development (CPD), Education and Training as Part of Technology for the Learning Process in Malaysian Built Environment. *WSEAS Transactions on Environment and Development* 3(5): 283-294.
- Datta, A. 2007. Gender and Learning in the Design Studio. *Journal for Education in the Built Environment* 2(2): 21-35.
- Demirbas, O.O. & Demirkan, H. 2003. Focus on architectural design process through learning styles. *Design Studies* 24(5): 437-456.
- Dewey, J. 1934. *Art as Experience*. New York: The Berkley Publishing Group.
- Dewey, J. 1938. *Experience and Education*. New York, NY: Macmillan.
- Doidge, C., Sara, R. & Parnell, R. 2000. *The Crit: An Architectural Student's Handbook*. London, UK: Architectural Press.
- Dozois, M.S.P. 2001. Construction Trough critique, The dialogic form of design studio teaching and learning. *PhD Thesis .Manitoba University*.
- Draper, J. 1977. The École des Beaux-Arts and the architectural profession in the United States: The case of John Galen Howard. In S. Kostoff (Ed.), *The architect: Chapters in the history of the profession* .New York: Oxford University Press : 209-237.
- Dutton, T.A. 1987. Design and Studio Pedagogy. *Journal of Architectural Education* 41(1): 16-25.
- Egbert, D.D. 1980. Beaux-arts traditions in French architecture. *Princeton, NJ: Princeton University Press*.
- Ehmann, D. 2005. Using Assessment to Engage Graphic Design Students in Their Learning Experience. *Making a Difference: Evaluations and Assessment Conference, Sdyney*.
- Eraut, M. 1994. *Developing professional knowledge and competence*. London: The Flamer Press.
- Esherick, J. 1977. Architectural education in the thirties and seventies. In S. Kostof (Ed.), *The Architect: Chapters in the History of the Profession*. New York, NY: Oxford University Press: 238-279.
- Favro, D. 1992. Sincere and Good: The Architectural Practice of Julia Morgan. *Journal of Architectural and Planning Research* 2: 112-128.

- Ferrance, E. 2000. *Action Research*. Brown University. United States.
- Fisher, A. 2000. Developing Skills with People: a vital part of architecture education. *Changing Architecture Education: towards a new professionalism*. Spon Press.
- Fitch, J.M. 1960. *Walter Gropius*. New York: Brazillier.
- Fosnot, C.T. 1996. Preface. In C. T. Fosnot (Ed.), *Constructionism: Theory, perspectives and practice*. New York: Teachers College Press: 9-11.
- Frampton, K. 1985. *Modern architecture: A critical history*. London, England: Thames & Hudson.
- Frederickson, M.P. 1993. Gender and racial bias in design juries. *Journal of Architectural Education* 47(1):38-47.
- Groat, L. N., and Ahrentzen, S. 1996. Reconceptualizing Architectural Education for a More Diverse Future: Perceptions and Visions of Architectural Students. *Journal of Architectural Education* 49(3): 166-183.
- George, J.W., Cowan, J. 1999. *A handbook of techniques for formative evaluation*. London: Kogan Page.
- Gibbs, G. 1999. Using assessment strategically to change the way students learn. In Brown, S. & Glasner, A. (eds) *Assessment Matters in Higher Education*. Buckingham: Society for Research into Higher Education and Open University Press.
- Gijbels, D. 2005. Integrating Assessment Tasks in a Problem-based Learning Environment. *Assessment and Evaluation in Higher Education* 73.
- Gijbels, D., Dochy, F. 2006. *Students' assessment preferences and approaches to learning: can formative assessment make a difference*. Educational studies, Taylor and Francis Publications.
- Glasser, D.E. 2000. Reflections on architectural education. *Journal of Architectural Education* 53(4): 250-252.
- Graham, E.M. 2003. *Studio Critique Student and Faculty Expectations and Reality*, PhD Thesis, Louisiana State University.
- Groat, L.N. & Ahrentzen, S. 1996. Reconceptualizing Architectural Education for a More Diverse Future: Perceptions and Visions of Architectural Students. *Journal of Architectural Education* 49(3):166-183.
- Gropius, W. 1937. *The new architecture and the Bauhaus*. (P. M. Shand, Trans.). New York: Museum of Modern Art.
- Gürel, M. & Potthoff, J.K. 2006. Interior Design in Architectural Education. *International Journal of Art & Design Education* 25(2): 217-230.
- Gutman, R. 1988. *Architecture practice: a critical view*. NY: Princeton Architecture press.

- Harris, W. & Shirley, M. 2002. Assuring Quality in the Assessment of Negotiation Skills : A Case Study in the Teaching of Trusts. *Murdoch University Electronic Journal of Law* 9(3).
- Hewitt, A. 2007. A Critique of the Assessment of Professional Skills. *LegEdRev Legal Education Review*.
- Hickman, R. 2007. *Re-evaluating assessment in art and design*. In *The Problem of Assessment in Art and Design*. Raymend. T. (Ed). Bristol: Intellect Books.
- Hinnet, K. & Bone, A. 2002, Diversifying Assessment, Developing Judgment in Roger Burridge, Karen Hinett, Abdul Paliwala and Tracey Varnava (eds). *Effective Learning and Teaching in Law* 52: 55.
- Honey, P. & Mumford, A. 1992. *Manual Learning Style*. London: honey. 3rd edn.
- Honey, P. & Mumford, A. 1996. *Managing your learning environment*. London: honey.
- Hopkins, J. 1994. Critics' Forum. *Landscape Design* 22(7): 24-25.
- Johnson, D.W. & Johnson, R.T. 1998. Cooperative learning returns to college: What evidence is there that it works? *Change* 30(4):26-35.
- Jones, S.H. 1996. Crits-An Examination. *International Journal of Art & Design Education* 15(2):133-141.
- Knight, P. 1995. *Assessment for Learning in Higher Education*. London, Kogan Page & SEDA.
- Knight, P. & Yorke, M. 2003. *Assessment, Learning and Employability*. Society for Research into Higher Education.
- Koch, A., Schwennsen, K., Dutton, T.A. & Smith, D. 2002. *The redesign of studio culture: A report of the AIAS Studio Culture Task Force*. Washington, DC: The American Institute of Architecture Students.
- Kolb, D.A. 1984. *Experiential Learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice hall.
- Kosman, A.K. 2006. Media penerbitan dan penyebaran idea identity senibina Malaysia: pengajaran daripada perderakan arts and crafts di Britain dan institusi Deutsche WERKBUND di Germa, *PhD Thesis, Universiti Teknologi Malaysia*.
- Kostof, S. 1977. *The Architect in the Middle Ages, East and West*. In S. Kostof (Ed.), *The Architect: Chapters in the History of the Profession*. New York, NY: Oxford University Press.
- Kurt, S. 2009. An analytic study on the traditional studio environment and the use of the constructivist studio in the architectural design education, *Procedia Social and Behavior Science* 1(1): 401-408.
- Lackney, J.A. 2000. *A history of the studio-based learning model*. Mississippi State, Educational Design Institute.

- Lagasse, P., Goldman, L., Hobson, A. & Norton, S. R. 2001. *The Columbia encyclopedia* (6th ed.). Columbia: Columbia University Press.
- Lawson B. 1980. *How Designers Think?* The Architectural Press Ltd. London.
- Lindström, L. 2006. Creativity: What is it? Can you assess it? Can it be taught? *Journal of Art and Design Education* 25: 53-66.
- Lindwall, O., Lymer, G. & Ivarsson, J. 2008. The Crit as a hybrid activity: negotiating Assessment in Architectural Education. *Language and Mind Conference*, Denmark.
- Linn, R. 2000. Assessments and Accountability. *Educational Researcher* 29(2):4-14.
- Littmann, W. 2000. Assault on the École: Student campaigns against the Beaux-Arts 1925–1950. *Journal of Architectural Education* 53(3): 159–166.
- Lodge, D. 1999. *Modern Criticism Theory*. Longman, Harlow, England.
- Lueth, P.L. 2003. The culture of architectural design studio: A qualitative pilot study on the interaction of the instructor and the student in their culture and the identification of the instructor's teaching styles. *Master's thesis. Iowa State University*.
- Macdonald, R. & Savin-Baden, M. 2004. A Briefing on Assessment in Problem-based Learning. *LTSN Generic Centre Assessment Series* 13.
- Mahmood, H. 1993. *Kepimpinan dan Keberkesanan sekolah*. Dewan Bahasa dan Pustaka, Kuala Lumpur. ISBN: 9789836298478.
- Manley, S. & Guise, R. 1993. *Urban Design Quarterly* 47: 20.
- Meyer, E.K. 1991. Landscape Architectural Design as a Critical Practice. *Landscape Journal* 10: 155-59.
- Miller, C.M.I. & Parlett, M. 1974. *Up to the mark: a study of the examination game*. Guildford: Society for Research into Higher Education.
- Miller, G. 1997. Introduction: Context and method in qualitative research. In G. Miller & R. Dingwall (Eds.), *Context and method in qualitative research*. London, Thousand Oaks, New Delhi: Sage Publications: 1-11.
- Mohammad, H.M., Omar, R.Z., Ossen, D. & Ariffin, S.I.A.S. 2005. Appropriate Flexible and Competitive architectural Education. *PhD Thesis. Universiti Teknologi Malaysia*.
- Nerdinger, W. 1985. *Walter Gropius: The architect Walter Gropius drawings, prints and photographs from Busch-Reisinger museum, Harvard University Art Museums, Cambridge/Mass. And from Bauhaus-archives, Berlin. With complete project catalogue*. Cambridge, MA: Busch-Reisinger Museum.
- Nicol, D. & Pilling, S. 2001. *Changing Architectural Education: towards a new professionalism*. London: Taylor and Francis Publications.

- Noffke, S.E. & Stevenson, R.B. 1995. Educational action research: Becoming practically critical. *New York: Teachers College Press.*
- O'Reilly, D. Weaver, N. & Caddick, M. 1999. Developing and delivering a tutor training program for problem based learning: a case study in architecture. *University of Newcastle.*
- Parnell, R. 2000. *The Student-Led 'Crit' as a Learning Device.* In D. Nicol and S. Pilling (Eds.), *Changing Architectural Education.* London, United Kingdom: Spon Press.
- Pearce, M. & Toy, M. 1995. *Educating architects.* London Academy Group (eds).
- Pertubuhan Akitek Malaysia (PAM). 2010. *Arcasia council meeting, Lahore, Pakistan.*
- Rasdi, M.T.M. 2009. *Confessions of a traditional academic.* Universiti Teknologi Malaysia.
- Rasdi, M.T.M. 2011. *Architecture and nation building: community, religion, politics and education.* Universiti Teknologi Malaysia.
- Rasdi, M.T.M. 2012. *Rethinking the University: Towards a meaningful career in Academia.* Universiti Teknologi Malaysia.
- Rayment, T. 2007. *The Problem of Assessment in Art and Design.* Raymend, T. (Ed). Bristol: Intellect Books.
- Rhowbotham. K. 1995. *Form to Programme.* London: Black Dog Publishing.
- RIBA .1993. *Strategic study of profession: phase2, Clients and architects.* London: RIBA.
- Rolfe, G. & Jasper, M. 1996. *Evaluating a student-centred course through participative action research.* In Gibbs, G. (Ed.). *Improving student learning: Using research to improve student learning.* Oxford: The Oxford Centre for Staff Development.
- Rowntree, D. 1987. *Assessing students: How shall we know them?* London: Kogan Page. 2nd edition.
- Rozendaal, J.S., Minnaert, A. & Boekaerts, M. 2001. Motivational and self-regulated learning in secondary vocational education: Information processing type and gender differences. *Learning and Individual Differences* **13**: 273-289.
- Sabol, F.R. & Zimmerman, E. 1997. *An Introduction: Standardized Testing and Authentic Assessment Research in Art Education.* LaPierre and E. Zimmerman (eds.) *Research Methods and Methodologies for Art Education.* reston, VA: National Art education Association.
- Sadler, D.R . 2005. Interpretations of criteria-based assessment and grading in higher education. *Assessment and education in higher education* **30**(2): 175-193.

- Salama, A.M. 1995. *New Trends in Architectural Education: Designing the Design Studio Raleigh*. North Carolina, USA: Tailored Text and Unlimited Potential.
- Salama, A. 1998. A new paradigm in architectural pedagogy. In M. Teklenburg, J. van.
- Salama, A.M. 2002. Environmental knowledge and paradigm shifts: Sustainability and architectural pedagogy in Africa and the Middle East. In *Architectural Education Today: Cross-Cultural Perspectives*. Lausanne: Comportements. Lausanne. Switzerland: Comportments : 51-63.
- Salama, A.M. 2005. A Process Oriented Design Pedagogy: The KFUPM Sophomore Studio CEBE Transactions. *CEBE Transactions* 2(2):16-31.
- Salama, A.M. & Wilkinson, N. 2007. *Design Studio Pedagogy: Horizons for the Future*. In A. M. Salama and N. Wilkinson (Eds.). Gateshead, United Kingdom.: The Urban International Press.
- Salama, A.M. 2010. Student Perceptions of the Architecture Design Jury. *International Journal of Architectural Research* 4(2-3) : 174-200.
- Sanoff, H. 2003. *Three decades of design and community*. Raleigh. NC: College of Design. North Carolina State University.
- Sara, R. 2002. The Pink Book. In Harder, E. (Ed.). Writings in architectural education, *EAAE Transactions on architectural education* 15: 58-71.
- Schön, D. 1981. *Learning a language, learning to design*. *Architectural Education Study*. Cambridge, MA: Consortium of East Coast Schools of Architecture.
- Schön, D. 1983. *The reflective practitioner: How professionals think in action*. United States: Basic Books Inc.
- Schön, D. 1984. Architecture studio as an exemplar of education for reflection-in-action. *Journal of Architectural Education* 38(1): 2-9.
- Schön, D. 1985. *The design studio: An exploration of its traditions and potential*. London: RIBA publication.
- Schön, D. 1987. *Educating the reflective practitioner: Toward a new design for teaching and learning in the profession*. San Francisco, CA: Jossey-Bass Inc publisher in higher education.
- Schön, D. 1988. Toward a marriage of artistry and applied science in the architectural design studio. *Journal of Architectural Education* 41(4): 16-24.
- Schön, D. 1991. *The Reflective Turn: Case Studies In and On Educational Practice*. NY: Teachers Press, Columbia University.
- Schwennsen, K. 2002. Search Committee for Undergraduate Foundations Faculty. *Letter to the Undergraduate Foundations Task Force*.

- Seidel, A. 1994. Knowledge needs the request of architects. In A. Seidel (Ed.), *Banking on design: Proceedings of the 25th Annual International Conference of the Environmental Design Research Association (EDRA)*:18–24.
- Seidman, I.E. 1998. *Interviewing in qualitative research: A guide for researchers in education and the social sciences*. New York: Teachers College Press.
- Shari, Z., Jaafar, Z.F.M. 2006. Towards a more Sustainable Architectural Education in Malaysia, *ALAM CIPTA International Journal on Sustainable Tropical Design Research & Practice* 1: 57-64.
- Shuel, T. 1986. Cognitive conception of learning, *Review of educational research* 56 : 411-436.
- Sotto, E. 1994. *When teaching becomes learning*. London: Cassell.
- Stamp, A.E. 1994. Jungian epistemological balance: A framework for conceptualizing architectural education. *Journal of Architectural Education* 48(2):105–112.
- Sudin, W.P. 2003. *Architecture education in Malaysia: an historical overview*. Architecture forum. Kuala Lumpur. Malaysia.
- Sylvester, R. 1995. *A celebration of neurons: An educator's guide to the human brain*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Taylor, S.J. & Bogdan, R. 1998. *Introduction to qualitative research methods*. New York: John Wiley & Sons.
- Teymur, N. 2001. 4x4 – Towards a Working Theory of Architectural Education. *AEE 2001 Conference*.
- Thomson S. 2007. Sharing Understanding of Assessment Criteria in Design Project Tutorials: Some Observations of, and Implications for, Practice. *IDEA Journal* 38(5).
- Uluoglu, B. 2000. Design Knowledge Communicated in Studio Critiques. *Design Studies* 21: 33-58.
- Vahidov, R. & Elrod, R. 1999. Incorporating Critique and Argumentation in DSS, *Department of Decision Sciences, College of Business Administration, Georgia State University*.
- Van Zanten, D. 1980. Note to the reader. In D. Van Zanten (Ed.), *The Beaux-Arts tradition in French architecture* Princeton, NJ: Princeton University Press: xxi–xxii.
- Vitruvius, P. 1940. *The Ten Books on Architecture* (ed. Morris Hicky Morgan). Cambridge MA: Harvard University Press.
- Vowles, H., Nicol, D. & Pilling, S. 2000. The Crit as a Ritualized Legitimization Procedure in Architectural Education. In *Changing Architectural Education*. London, United Kingdom: Spon Press: 259-264.
- Vygotsky, L.S. 1978. *Mind in society*. Cambridge, MA: Harvard University Press.

- Waddell, G. 2007. What is action research, online presentation. ONLINE. URL: <http://www.slideshare.net/Gregwad/action-research>.
- Weaver, N. 1997. *The atelier principle in teaching*. University of Roskilde. Denmark.
- Webster, H. 2006. Power, Freedom and Resistance: Excavating the Design Jury. *Journal of Art and Design Education* 25(3) : 286-296.
- Wilkin, M. 2000. *Reviewing the Review, Changing Architectural Education*, Nicol, Pilling, eds. *Changing Architectural Education*. London:Taylor and Francis Publications.
- Zull, J.E. 2002. *The art of changing the brain: Enriching the practice of teaching by exploring the biology of learning*. Sterling, VA: Stylus.



APPENDIX A

STUDENT QUESTIONNAIRE

Please read before answering the following questions:

Instructions for questions 1-5

1. Sex Male Female
2. Are you an international student studying abroad at UKM?
Yes No
3. During your past and current design studios at UKM, did your instructor(S) explain the purpose of a design jury to the entire class?

Yes, in every studio I have taken
Sometimes
Never
4. During your past and current design studios at UKM, have you been encouraged to participate in the jury discussion when another student is presenting his or her project?

Yes, in the every studio I have taken
Sometimes
No, never
5. Overall, do you feel jurors follow a certain structure for giving students criticism during a jury?

Yes
Sometimes
No

If you answered to #5, please answer the following question:

Do you think it would be beneficial to the way juries are conducted if every juror followed a common structure for giving students criticism?

Yes

No

Instruction for question 6 and 7

Please circle as many answers as needed for each question to best describe your response.

6. Who you think **should** benefit from a jury?

The student presenting a project

The jurors

The other students in the class observing the jury

7. Who do you think benefits from the way juries are **currently conducted**?

The student presenting a project

The jurors

The other students in the class observing the jury

Instruction for questions 8-13

Please circle one number for each category to best describe your response on a scale from 1 to 5

8. In general, how **dissatisfied or satisfied** are you with each of the following:

	<u>Very dissatisfied</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>very satisfied</u>
Desk crits				1	2	3	4 5
Informal class pin ups				1	2	3	4 5
Final juries				1	2	3	4 5

9. In general, how much do you usually **learn** from each of the following

	<u>Very little</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>very much</u>
Desk crits					1	2	3 4 5
Positive criticism					1	2	3 4 5
Informal criticism					1	2	3 4 5
Negative criticism					1	2	3 4 5

Final juries- your project	1	2	3	4	5
Final juries- other projects	1	2	3	4	5

10. Do you agree or disagree that each of the following items are **goals of desk crits**:

<i>Strongly disagree</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>strongly agree</i>
Teacher listens to your ideas	1	2	3	4	5	
Understand your own design process	1	2	3	4	5	
Explore several design options	1	2	3	4	5	
Respond to criticism	1	2	3	4	5	
Advice from studio instructor	1	2	3	4	5	
Be given a design solution from instructor	1	2	3	4	5	
Gain confidence in design ability	1	2	3	4	5	
Gain confidence in talking about ideas	1	2	3	4	5	
Be given suggestions for further research	1	2	3	4	5	
Fault finding in your design	1	2	3	4	5	
Improve critical thinking skills	1	2	3	4	5	
Encouragement to explore your own ideas	1	2	3	4	5	
Learn to critique your ideas on your own	1	2	3	4	5	
Other.....	1	2	3	4	5	

11. Do you agree or disagree that each of the following items are **goals of juries**:

<i>strongly disagree</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>strongly agree</i>
Improve presentation skills	1	2	3	4	5	
Listen to jurors feedback	1	2	3	4	5	
Establish a letter grade for your project	1	2	3	4	5	
See other students' project	1	2	3	4	5	
Improve graphic skills	1	2	3	4	5	
Chance for teachers to listen to your ideas	1	2	3	4	5	
Find out what you did or didn't do well	1	2	3	4	5	
Inform future design decisions	1	2	3	4	5	
Allow others to find faults in your design	1	2	3	4	5	
Improve design knowledge	1	2	3	4	5	

Learn how to respond to criticism	1	2	3	4	5
Review the process that lead to your design	1	2	3	4	5
Improve critical thinking skills	1	2	3	4	5
Time for jurors to convey their knowledge	1	2	3	4	5
Listen to feedback given to other students	1	2	3	4	5
Discuss ideas and issues with others	1	2	3	4	5
Chance to please instructors	1	2	3	4	5
Improve design vocabulary	1	2	3	4	5
Other.....	1	2	3	4	5

12. In general, how often do **desk crits** cause you to react in each of following ways:

	<u>Rarely</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>very frequently</u>	
Encouraged				1	2	3	4	5
Confused				1	2	3	4	5
Receptive to feedback given				1	2	3	4	5
Disappointed				1	2	3	4	5
Excited about ideas				1	2	3	4	5
Resistant to take advice				1	2	3	4	5
Inspired				1	2	3	4	5
Frustrated because you didn't get answers				1	2	3	4	5
Confident in personal design process				1	2	3	4	5
Defensive of ideas				1	2	3	4	5
Ready to try new things				1	2	3	4	5
Nervous				1	2	3	4	5
Appreciative of feedback given				1	2	3	4	5
Indifferent				1	2	3	4	5
Other.....				1	2	3	4	5

13. In general, how often do **juries** cause you to react in each of the following ways:

	<u>Rarely</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>very frequently</u>		
Encouraged					1	2	3	4	5

Confused	1	2	3	4	5
Receptive to feedback given	1	2	3	4	5
Disappointed	1	2	3	4	5
Excited about ideas	1	2	3	4	5
Resistant to take advice	1	2	3	4	5
Inspired	1	2	3	4	5
Confident in personal design process	1	2	3	4	5
Defensive of ideas	1	2	3	4	5
Ready to try new things	1	2	3	4	5
Nervous	1	2	3	4	5
Bored	1	2	3	4	5
Appreciative of feedback given	1	2	3	4	5
Indifferent	1	2	3	4	5
Argumentative	1	2	3	4	5
Other.....	1	2	3	4	5

Instruction for questions 14-17

The following questions are open-ended questions. Please feel free to write openly to respond to best describe your answer.

14. What's the best jury experience you have ever had or seen?

15. What's the worst jury experience you have had or seen?

16. What CHANGES FOR IMPROVEMENT would you like to see occur in the way design juries are held?

17. Please feel free to write any additional comments about desk crits or juries.

APPENDIX B

INSTRUCTOR QUESTIONNAIRE

1. How long have you taught architecture?
2. Mark the most three commonly used representation types that you require students to use while assessing their work:
 - Diagrams /sketches , - Photographs , - 2D Graphical Work , - Study Model
 - Text , - Poster , - Technical Drawing , - Video/Animation
3. Mark the most 3 commonly used assessment type that is used in your studio:
 - One –to- One (An instructor and a student)
 - Collective (An instructor and a group of students)
 - Jury1 (A group of evaluators and a group of students)
 - Jury2 (A group of evaluators and a student)
 - Jury3 (A group of evaluators and students work)
 - Sketch Problem
 - End of Semester Portfolio
4. Mark the best choice in your opinion to complete this sentence: *In assessments where more than one evaluator participates, a debate on the student work among the evaluators is more.....*
 - Fruitful than calculating the mathematical average of the grades.
 - More just method than a debate
5. Please circle as many answers as needed to best describe your response about criteria assessment tools:
 - While grading, I develop assessment criteria appropriate for semester content
 - I grade the student work only by comparing them
 - The assessment criteria are usually given by a coordinator or an administrator
 - There should be common criteria among instructors teaching same student level

- Each instructor should have her/his assessment criteria.
- The oral presentation of the students affect my assessment
- Oral presentation is redundant. instructor should assess work only by material
- Not only the product but student progress is among my assessment criteria
- Progress is a student's bare minimum obligation, therefore if we assess only the product, we can grade more justly
- Each student has a different learning style; therefore we cannot assess their work with the same criteria.
- Since the bare minimum knowledge and ability that the students need to acquire is common, we have to use common assessment criteria.

6. Please circle as many answers as needed to best describe your response about The role of assessment in learning/teaching strategy (Feedback):

- I arrange a feedback meeting with the students after the grades are given.
- I believe that every instructor should have a feedback meeting with the students after the grades are given.
- Grades give feedback and inform the instructor more on the teaching and communication level in the studio. As such, poor grades indicate that some changes should be made in teaching.
- Grades give feedback and inform the instructor more on the learning and work level of the students in the studio. As such, good grades indicate that the content or assessment style should become more challenging.

7. Please circle as many answers as needed to describe about Time spending during assessment and whether you are flexible in changing the grades if there happens to be objections from the students:

- I double-check and compare the works of the students that have the same grades as the last phase of assessment.
- There is no time to double-check and compare the works of the students that have the same grades.
- I tend to change the grades if students object grades.
- I do not consider changing grade

8. Please circle one answer to describe your opinion about having assessment training for the instructors.

- Studio instructors should have training on assessment as a support for their teaching.
- There is no need of assessment training as a support for teaching the design studio



APPENDIX C

INSTRUCTOR INTERVIEW

1. What do you think is the **purpose** of a desk crit?
2. What do you think are the **advantages** of a desk crit over the typical lecture format?
3. More specifically, as a design teacher, what are your **educational goals or objectives** you try to accomplish during a desk crit?
4. What are student's **reactions** to desk crit?
5. Do you think desk crits are **effective** as a learning tool and why?
6. What do you think is the purpose of a jury?
7. Do you think juries should evaluate student's work?

Probe question: In the most academic disciplines, students turn in completed work to a professor. Their work is then evaluated and returned to them, marked with a grade and some comments. On comparison to the structure of design studios, what are the **advantages** of a jury over traditional methods of evaluation?

8. More specifically, as a design teacher, what are your **educational goals or objectives** you try to accomplish during a jury?
9. Do you have a framework or certain structure you like to follow for each student during a jury?
10. What are student's **reactions** to juries?
11. Do you think juries are **effective** as a learning tool and why?
12. Think back to a jury when you were satisfied with the outcome. Can you explain why the experience was successful?
13. During the course of teaching a design studio, do you explain the purpose of a jury to your students?
14. If desk crits are a one on one interaction between an individual student and the teacher, **whom should a jury be directed towards**: the student who is presenting a project, the juries or the entire class?

Last question:

15. Are there any changes for improvement you would like to see occur in the way juries are conducted?

APPENDIX D

Students Interview Questions

- 1- Why you chose architecture as your major for university? (you just liked Art or you were familiar with architecture)
- 2- Do you plan to continue your study to learn more about design skills or you prefer to enter to practical world.
- 3- How do you learn designing? (Reading, in the studio, discussion with peers or tutors)
- 4- The design process is challenging or interesting to you?
- 5- Do you learn any skill during each semester or year to use in other projects in further semesters or what you learn is just related to that special project?
- 6- How much you make a risk in your design process and try new or creative ideas?
- 7- When you are working on your design process or even other parts, do you prefer to work in the studio and under supervision of tutors or at home?
- 8- How do you approach your design toward the final jury, whom you want to satisfy? (Your idea or studio leader)
- 9- What is the common format of given comment and feedbacks to you?
- 10- (What you prefer to be? Which one will maximize your understanding level?)
- 11- Do the given feedbacks to you answer to all question in your mind or they just confuse you or any other feeling?

- 12- Whose comments are more effective to you to use. Tutors or students in higher semesters
- 13- Do you receive feedbacks on time and related to the current step of designing or late and not related? (I mean the feed backs are related to previous step or for further steps)
- 14- Which one is more important to you?)Quality of feedbacks or quantity of feedbacks)
- 15- Do feedbacks promote discussion?
- 16- during crit sessions, when you receive negative comments; do you talk to assert your project?
- 17- After crit sessions, individual or in panel, what do you usually feel?
- 18- How much do you spend on designing and preparing your project before submission day?
- 19- Do you prefer to get final mark of the course just for one final project or you prefer to do some different projects during the semester and the total mark given to you by calculating all marks.
- 20- What do you think about jury scheduling. (Is it better to be in submission day or some days after that)
- 21- Jurors sit in a row in front of you in final juries; does it make you any sense or feelings? (I mean you feel relax or nervous in this way)
- 22- In submission day do you prefer dialogue feedback to assert your project or you prefer just receive the final project grade without any discussion.

23- which one do you prefer for jury composition: (why)

Involving studio leader and instructors only

External examiners as a part of jury process

24- Do you feel outsiders know much about what the project is about? (In jury day)

25- Do you prefer the judgment hold behind closed doors or students attend and explain about their project. Or you prefer to just answer to the questions jurors might ask you.

26- Do you feel the given time to you to present your work in submission day is enough?

27- Have you ever interrupted by your jurors in the middle of your presentation?

28- Which one do you think effect more on jurors and the grades they give?

Oral presentation, Graphic skills, Developing idea

29- Do you rewarded enough in submission day or even crit sessions, related to your effort.

30- Which grading policy do you prefer:

Holistic on overall project, Criteria based, Comparative

31- Impact of adherence to programmatic requirement;

Has high impact on jurors and grades, Has low impact, Has Average, Has No impact

32- Approaching jurors toward the final grades:

From the perspective of the instructors on jurors and the grade

Base on their understanding and thinking and nature of project

APPENDIX E

SEMESTER CALENDER

Mark Distribution:

Project 1 (Group Discussion Report & Observation): 10%

Project 2 (Site Analysis Report): 20 %

Project 3 (Student Centre Design): 50%

Project 4 (Landscape Design): 20%

Table E.1 Semester Calender 2010 -2011

Week	Topic	Remarks
Week 1 20-25 December 2010	Module Introduction to Project Project Brief, Term and Condition - Assignment, Lecture, Tutorial and Studio session. - Reference Group Discussion on the research findings Group Discussion and Table Critique	Detail Research on cultural Issue in Malaysia Literature Review
Week 2 27-31 December 2010	Presentation of Project 1: Marketing Our Cultural Heritage Table Critique & Discussion Submission and Presentation of 1st Project	Submission of: 1. Brochure on culture of Malaysia 2. Portable Information Kiosk (1:1 Model & A-1 Presentation Board)
Week 3 3-7 January 2011	Project 2: Redefining Cultural Centre Research & Group Discussion Peer review (Critique Session)	Detail Research on definition and elements of cultural centre. Literature Review Detail Building Study
Week 4 10-14 January 2011	Project 2: Precedent Study of Frank Lloyd Wright Table Critique & Drawing Studies Model Development Table Critique	Submission of detail report on Frank Lloyd Wright and one of his building
Week 5 17-21 January 2011	Project 2: Precedent Study of Frank Lloyd Wright Table Critique & Discussion Submission and Presentation of 2nd Project (Precedent Study)	Submission of: 1. Detail Model of Frank Lloyd Wright Building (A1-Based) 2. Models of the building's Detailing (1: 5)
Week 6 24-28 January 2011	Academic Trip to Bali, Indonesia: Site Analysis, Culture & Cultural Centre Impression of your site Submission and Presentation of 2nd Project (Site Analysis)	Submission of Site Analysis & Travelogue
Week 8 7-11 February 2011	Project 3: Resort & Cultural Centre Issue Identification Idea development Massing and space development Space development and spatial relation Table Crit (Critique Session)	Submission of: 1. Model Developments 2. Drawing Developments (Minimum 10 model of massing development and 20 sketches of Idea

		development).
Week 9 14-18 February 2011	Project 3: Resort & Cultural Centre Design Development 1 Master plan and circulation analysis Environmental adaptation and analysis Ground floor plan and border development 1 Panel review (Critique Session)	Submission of 2 A-1 boards of Master Plan and Ground Floor Plan.
Week 10 21-25 February 2011	Project 3: Resort & Cultural Centre Design Development 2 Façade and Section development 1 Space hierarchy, quality and arrangement Table Crit (Critique Session)	Submission of 2 A-1 boards of façade and 30 Sketches.
Week 11 28 Feb-4 March 2011	Project 3: Resort & Cultural Centre Design Development 3 Ground floor plan and border development 2 Façade and Section development 2 Technical and construction studies Table Crit (Critique Session)	Submission of 2 A-1 of section explaining technical, construction and build-ability scheme
Week 12 7-11 March 2011	Project 3: Resort & Cultural Centre Design Development 4 Detailing & Finishing Development 1 Drawing (Board) and Model Development 1 Table Crit (Critique Session)	Submission of 2 A-1 of detail ornamentation, materials and finishing
Week 13 14-18 March 2011	Project 3: Resort & Cultural Centre Drawing (Board) and Model Development 2 Interim Crit-Panel Review (Critique Session)	Submission of Drawing and Model (for final presentation)
Week 14 21-25 March 2011	Project 3: Resort & Cultural Centre Design Finalizing Stage Detailing & Finishing Development 2 Drawing (Board) and Model Development 2 Table Crit (Critique Session)	Submission of Final Drawing and Model
Week 15 28 March-1 April 2011	Project 3: Resort & Cultural Centre Final Presentation of Project 3 (Main Project) Panel Review (Critique Session)	Folio Compilation
Week 16 4-8 April 2011	Internal & External Review	

Mark Distribution:

Project 1 (Marketing Our Cultural Heritage): 20%

Project 2 & 3 (Site Analysis & Precedent Study): 30 %

Project 3 (Resort & Cultural Centre)+ Folio Reka Bentuk: 50%

Table E.2 Semester Calendar 2010 -2011

Week	Topic	Remarks
Week 1 12-16 July 2010	Module Introduction to Project 1: Student Centre - Project Brief, Term and Condition - Assignment, Lecture, Tutorial and Studio session. - Reference Group Discussion on the book Architecturally Speaking/ Architecture & People by Eugene Ruskin Direct observation on student activity Preparation for Academic Trip to Jakarta Group Discussion	Identification of Issue Precedent Studies Literature Review Report Submission on book and observation

	Panel Review (Critique Session)	
Week 2 19-23 July 2010	Site Analysis 1 Impression of your site RSVP workshop and site potential identification Site model development Group Discussion	Submission of (minimum) 30 sketches and 50 photographs per student.
Week 3 26-30 July 2010	Site Analysis 2 Site model development Presentation of site analysis Peer review (Critique Session)	Submission of site analysis 2 A-1 Board and site models including sketches and photographs analysis.
Week 4 2-6 August 2010	Academic Trip to Jakarta: Student Activities and Student Centre Design	Submission of report on precedent studies on student activities and student centre observation
Week 5 9-13 August 2010	Issue and Idea Development 1 Issue Identification Workshop on idea development Massing and space development Table Crit (Critique Session)	Submission of minimum 10 model of massing development and 20 sketches of Idea development.
Week 6 16-20 August 2010	Issue and Idea Development 2 Space development and spatial relation Master plan and circulation analysis Environmental adaptation and analysis Table Crit (Critique Session)	Submission of 2 A-1 board on analysis and related topic.
Week 7 23-27 August 2010	Design Development 1 Ground floor plan and border development 1 Façade and Section development 1 Space hierarchy, quality and arrangement Panel review (Critique Session)	Submission of 2 A-1 boards of all plan, façade and section explaining space hierarchy, quality and arrangement
Week 8 30 Aug-3 Sept 2010	Design Development 2 Ground floor plan and border development 2 Façade and Section development 2 Technical and construction studies Table Crit (Critique Session)	Submission of 3 A-1 boards of all plan, façade and section explaining technical, construction and build-ability scheme
Week 9 6-10 September 2010	Drawing (Board) and Model Development Interim Crit-Panel Review(Critique Session)	1 st Final Submission of drawing and draft model
Week 10 13-17 September 2010	Final Presentation Final submission and folio documentation Panel review (Critique Session)	Final Submission Final Presentation
Week 11 20-24 September 2010	Introduction of Project 2: Landscape Design Precedent studies Outdoor spaces identification Lecture on landscape Table Crit (Critique Session)	Submission on literature review, Lecture and Precedent Studies
Week 12 27 Sept-1 Oct 2010	Idea Development Workshop on idea development Presentation of idea and thematic approaches Space development and master plan Peer Review (Critique Session)	Submission of minimum 10 model of massing development and 20 sketches of Idea development.
Week 13 4-8 October 2010	Space Development Plan section and elevation Outdoor spaces detail & elements Technical studies and board development Panel Review (Critique Session)	Submission of 2A1 board on space development
Week 14 11-15 October 2010	Design Development Plan section and elevation 2 Model development & finalized Technical studies and board development 2 Table Crit (Critique Session)	Submission of Final Drawing and Model

Week 15 18-22 October 2010	Final Presentation Panel Review (Critique Session)	Submission of Final Drawing and Model
Week 16 25-29 October 2010	Internal & External Review	Folio Compilation

Mark Distribution:

Project 1 (Temporary Praying Platform), 3 Weeks: 20%

Project 2 (Islamic Community Centre), 8 weeks: 50 %

Project 3 (Outdoor Spaces for Islamic Activity), 3 Weeks: 20%

Management and Leadership (Professionalism): 10%

Table E.3 Semester Calendar 2011 -2012

Week	Activity/ Topic	Remarks/ Submission
Week 1 12-18 September 2011	Pre-Design Quiz Launching of Project 1 Module Introduction to All Project Project Brief, Term and Condition - Assignment, Lecture, Tutorial and Studio session. - Reference Group Discussion on the research findings	1. Detail Research on mosque Issue in Malaysia 2. Literature Review
Week 2 19-25 September 2011	Lecture 1: Rethinking Mosque Architecture (Dr. Nangkula Utaberta). Design Workshop on Hadith and Architecture Re-Evaluation of Design Quiz Design Development: Conceptual, Site Consideration and Model Exploration Table Critique & Discussion	3. Conceptual Drawings 4. Site Analysis 5. Massing Model
Week 3 26 Sept-2 Oct 2011	Lecture 2: Mosque Issue and Problems in Malaysia from the Perspective of Hadith (Hafsah Othman) Design Development: Presentation and Technical Drawings Peer review (Critique Session)	1. Research Papers Submission 2. Detail Research on Technical Requirement 3. Presentation Drawings (posters)
Week 4 3-9 October 2011	Submission of Project 1 Academic Trip to Jakarta & Bandung Lecture 3: Mosque and Islamic Centre Design: Indonesia Experience(Dr. Ir. Kemas Ridwan Kurniawan dan Ghofar Rozaq Nazilla ST-Head of Architecture Dept and Senior Lecturer, University of Indonesia and Director Rellife Architecture Consultant) Lecture 4: Documenting Traditional Mosque Architecture: A project of Masjid 2000(Assoc. Prof. Dr. Eng. Bambang Setiabudi-ITB) Precedent Study The Launching of Project 2 Site Analysis for Project 2 Group Discussion	1. Submission of Drawing and Model (1:10) 2. Precedent Study Discussion 3. Site Analysis Discussion
Week 5 10-16 October 2011	Lecture 5: Traditional Mosque Architecture in Nusantara (Ar. Mastor Surat) Design Development 1: Conceptual, Site Consideration and Idea Exploration	Submission of: 3. Building Massing 4. Precedent Study Report- Masjid UKM

	Table Critique & Discussion	
Week 6 17-23 October 2011	Lecture 6: Sustainable Mosque and The Important Usage of Water (Dr. Rahmah Elfithri-Lestari) Design Development 2: Site Analysis, Idea Development Impression of your site Table Critique & Discussion	Submission of Site Analysis & Travelogue
Week 7 24-30 October 2011	Lecture 7: The Idea of Mosque as a Community Development Centre (Aisyah-UIN Malang) Design Development 3: Design Strategy, Spatial and Form Development Table Critique & Discussion	Submission of: 1. Building Massing 2. Precedent Study Report-Masjid UKM
Week 8 31 Oct-6 Nov 2011	Design Development 4: Design Framework, Further Spatial and Form Development, Technical Consideration. Table Critique & Discussion)	Submission of: 1. Space Quality and Hierarchy 2. Bubble Diagram 3. Circulation 4. Space Development
Week 9 14-20 November 2011	Lecture 8: Graphic Presentation and 3D Architecture (Ir. Irham Themas Sutomo-Univ Riau) Design Development 5: Design Framework, Further Spatial and Form Development, Technical Consideration. Table Critique & Discussion.	Submission of : 1. Design Sketches (Idea of Spaces 2. Diagrammatic Study 3. Technical Sketches
Week 11 21-27 November 2011	Design Development 6: Final Presentation Drawings, Plan Section and Elevation Development, Technical Drawings and Detailing Model development Interim Critique	1. Plan, Section and Elevation Development 2. Technical Drawing
Week 12 28 Nov-4 Dec 2011	Final Presentation for Project 2 Internal and External Presentation Launching of Project 3 Panel Review	Submission of All requirement for Project 2 (Drawing and Models)
Week 13 5-11 December 2011	Lecture 9: Metaphor and Meaning in Architecture (Badiossadat Hassanpour) Multimedia Presentation Design Development 1: Idea and Concept Development, and Space Quality Design Strategy Interim Crit-Panel Review(Critique Session)	Submission of Multimedia Presentation
Week 14 12-18 December 2011	Lecture 10: Site Planning and Landscape Design (Khairul Azhar Mat Sulaiman/ Dr. Nik Lukman) Design Development 2: Design Framework, Further Spatial and Form Development, Plan Section and Elevation, Technical Consideration. Table Crit (Critique Session)	1. Plan, Section and Elevation Development 2. Technical Drawing
Week 15 19-25 December 2011	Design Development 3: Detailing & Finishing Development Drawing (Board) and Model Development Interim Critique	1. Presentation Drawing 2. Model development
Week 16 26 Dec-1 Jan 2011	Final Presentation for Project 2 Internal and External Presentation Panel Review	Submission of All requirement for Project 3 (Drawing and Models)
Week 17 1-8 January 2011	Revision Weeks	

APPENDIX F

CURRICULUM VITAE

PROFESSOR DR. MOHAMAD TAJUDDIN BIN HAJI MOHAMAD RASDI

Nationality: Malaysian

Date of Birth: 25th January 1962

Office Address: Department of Architecture, Faculty of Built Environment, Universiti Teknologi Malaysia, Skudai, Johor, 81300

Contact info: Hp: 016-7804735, Office: 07-5530644

ACADEMIC QUALIFICATIONS

1984, Bachelor of Science in Architectural Studies, University of Wisconsin, Milwaukee, USA

1986 Master of Architecture, University of Wisconsin, Milwaukee, USA

1996 Doctor of Philosophy, University of Edinburgh, Scotland

ADMINISTRATIVE POST/ADDITIONAL RESPONSIBILITIES

Director, Centre for the Study of Built Environment in the Malay World

(KALAM), May '96 – Dis '98, Dis 2000 – 2010

Member, UTM Publisher Board of Editors, 1999 – 2001

Member, Faculty Publication Committee, UTM 2001-2003

Panel Member, Institute for Rural Development, UTM, 2000 –

Member, Board of Directors for the Museum of Architecture, Malaysia, 2001

Mosque Fellow, Universiti Teknologi Malaysia, 2002 –

International Editorial Board, Journal of South East Asian Architecture, National University of Singapore, 2001 –

International Editorial Board, Global Built Environment Review, Edgehill UK, 2002 –

Head Panel, Undergraduate Thesis, 1999 –

Head Panel, Theory and History, 1999 –

Advisory Panel for Architectural Curriculum at Taylor's College, 2004

Main Advisor to Center for Modern Architecture in Malaysia, MASSA

Taylor's University College

Advisory Panel for Islamic Museum on Exhibition of Islamic Art and

Architecture in the Malay World, 2004

Member, National Committee for Architectural Heritage, Ministry of Culture, Arts and Heritage, Malaysia

ADJUNCT PROFESSOR, UNIVERSITY COLLEGE SEDAYA INTERNATIONAL, 2009 –

Visiting Professor, Taylors University College, 2009 –

Research Assessor, FRGS National Level, 2008 –

Research Assessor, University Level, IRPA, FRGS, Focus Group, 2007 – 2009

Research Fellow, Center for Fiqh, CFirst, UTM

Curriculum Assessor, UKM, 2009

Assessor for Professorship, UITM, May 2009

Assessor of Professorship, UKM, June, 2009

Assessor for Associate Professorship, UTHM, Dec, 2009

Special Committee for Tokoh Award in Writing, UTM, 2008

Research Award Assessor, IIUM, Feb 2008

Visting Professor, Universitas Islam Negeri, Malang, Indonesia, 1/12/09 – 7/12/09

WRITINGS/PUBLICATIONS

Books

- Mohd. Tajuddin, The Mosque As A Community Development Centre, Penerbit UTM, 1998
- Mohd Tajuddin, Peranan, Kurikulum dan Reka Bentuk Masjid Sebagai Pusat Pembangunan Masyarakat, Penerbit UTM, 1999 (The Role, Curriculum and Design of Mosques as Community Development Centers)
- Mohd Tajuddin et al., The Architectural Heritage Of The Malay World: The Traditional Houses, Penerbit UTM 2006
- Mohd. Tajuddin et al., Warisan Senibina Dunia Melayu: Rumah Tradisional, Penerbit UTM, 2005
- Mohd Tajuddin, The Architectural Heritage Of The Malay World: The Traditional Mosques, Penerbit UTM, 1999
- Mohd Tajuddin and Hamdan Ahmad, Atrium Buildings for the Tropics, Penerbit UTM, 2000
- Mohd Tajuddin, Identiti Seni Bina Malaysia: Kritikan terhadap Pendekatan, Penerbit UTM, 2001 (The Malaysian Architectural Identity: A Critic of Approaches)
- Mohd Tajuddin and Rosdan A. Manan, Konsep Perbandaran Islam: Suatu Gagasan Alternatif, Penerbit UTM, 2001 (Concept of an Islamic City: An Alternative Idea)
- Mohd Tajuddin, Hadith and Islamic Architecture: Mosque Design (Utusan Publications, 2003)
- Mohd Tajuddin, Housing Crisis in Malaysia: Back to a Humanistic Agenda (UTM, 2006)
- Mohd Tajuddin, Malaysian Architecture: Crisis Within (Utusan Publications, 2004)
- Mohd. Tajuddin et al., Kerjaya dalam Bidang Senibina, Careers in Architecture (UTM, 2007)
- Mohd Tajuddin, Sejarah, Teori dan Kritikan Seni Bina (Penerbit UTM, 2006)
- Mohd Tajuddin and Alice Sabrina, Teori Seni Bina Frank Lloyd Wright (The Architectural theory of Frank Lloyd Wright) (Pearson Publications, 2002)
- Mohd. Tajuddin, Reinterpreting Islamic Architecture, Gerakbudaya/SIRD, KL, 2009
- Mohd Tajuddin, Nilai-Nilai Cemerlang Kepimpinan Islam (Quality Values of Leadership in Islam) (Utusan Publications, 2002)
- Kamarul, Lim Yong Long, Rosdan, M. Tajuddin, 50 Tahun Perumahan Malaysia, Institut Alam Tamaddun Melayu, Bangi, 2008
- Mohd Tajuddin, Monograf 'Melaka', (KALAM, 2002)
- Mohamad Tajuddin, Rethinking Islamic Architecture, Strategic Information and Research Development, Petaling Jaya, 2010
- Mohamad Tajuddin, Warisan Senibina Tradisional Islam Dunia Melayu, Dewan Bahasa dan Pustaka, Kuala Lumpur, 2010
- Mohd. Tajuddin, Krisis Pemikiran Senibina Malaysia, Penerbit UTM, 2011
- Mohd. Tajuddin and Cheah Ding Ding, Masalah Perumahan dan ritual Masyarakat Cina, Penerbit UTM, 2011

Book Chapters

- Mohd. Tajuddin, Veritas Architect, First Chapter on Cross roads of Malaysian Architecture: The Works of Veritas, July 2007
- Mohd. Tajuddin, The Monsoon and the Message, Islamic Arts Museum, 2005, Chapter 3 on Islamic Architecture
- Mohd Tajuddin, 80 Years Architecture, Pertubuhan Arkitek Malaysia, 2000 (Chapter 1: In Search of the Malaysian Architectural Identity)
- M. Tajuddin, Mosque Architecture Discourse: Trapped Between Two Worlds, Chapter in the book Eastern Perspectives of Western Perspectives edited by Shanti Venugopal, Palgrave: London 2011

Selected Publications

- The Implications of the Meanings of Prayer on the Present Theory of Mosque Architecture, Edinburgh Architecture Research , 1993, Vol.20, pp.173-187
- The Meaning of Iktikaf in Islam and its Implications on Mosque Design, Edinburgh Architecture Research, 1994, Vol.21, pp.50-63
- A Criticism on the Use of the Qur'an and the Hadith in Mosque Architectural Interpretation from the Sunni Perspective of Islam, Edinburgh Architecture Research, 1995, Vol.22)
- The Mosque: A House of Worship or A Community Centre? , Architecture Journal,UTM, 1992
- Mohd Tajuddin, Konsep dan Fungsi Masjid di dalam Al-Hadis: Suatu Pengajaran Bagi Pembangunan Masjid Masakini , Jurnal Alam Bina, No.2, UTM, 1998(The Function and Concept of the Mosque in the Hadith: A lesson for the Present Development of Mosques)
- Mohd Tajuddin, Makna Ibadah dan Solat serta Implikasinya terhadap Peranan dan Reka bentuk Masjid, Jurnal Alam Bina, No. 4, UTM 1999
- Mohd Tajuddin, Ikonografi dan Tata Letak Seni Ukiran Kayu Bermotif Tumbuh-Tumbuhan Di dalam Rumah Tradisi Negeri Perak, Jurnal Teknologi UTM, 1999(The Iconography and Placement of Timber Carvings of Floral Motifs on Traditional Malay Houses)
- Mohd Tajuddin, A Tale of Two Mosques: A Critique from Wright's Organic Architectural Principles, Architecture Malaysia, pg. 58-60, 2001,vol.3 no.3
- Mohd Tajuddin, The Sunway Pyramid Complex: A Question of Architectural Competence and Cultural Tolerance, Architecture Malaysia May-June 1998
- Mohd Tajuddin, Identiti Seni Bina Nasional: Kepincangan Pendekatan Revivalisme, Architecture Malaysia, pg. 58-60, 2001 vol.13 no.2
- Mohd Tajuddin, Identiti Nasional Seni Bina Tempatan, Architecture Malaysia, pg. 64-65 , 2001
- Mohd Tajuddin, Crisis in Architectural Education: Reevaluating the Roles of Academics, Architecture Malaysia, 2002 vol 14 no.1
- Mohd Tajuddin, Campus Design: Of Motorcycles and Mediocrity, Architecture Malaysia, December, 2002
- Mohd Tajuddin, Nilai-Nilai Demokrasi dalam Seni Bina, Architecture Malaysia, 2002
- Mohd. Tajuddin, JKR Police Barrack, Architecture Malaysia, First Quarter, 2004
- Mohd. Tajuddin, Interview with KALAM, Architecture Malaysia, First Quarter, 2004
- Mohd Tajuddin, Modernism dalam Warisan Vernakular, Dewan Budaya, April 1998(Modernisme in the adaptation of the Vernacular Heritage)
- Mohd Tajuddin, Pasca Modernisme dalam Seni Bina Kontemporer Malaysia, Jun, 1998(Post-Modernisme in Contemporary Architecture in Malaysia)
- Mohd Tajuddin, Kompleks Sunway Pyramid: Persoalan Toleransi Budaya dan Profesional, Dewan Budaya, Julai 1998 (The Sunway Pyramid Complex: A Question of Professional and Cultural Tolerance)
- Mohd Tajuddin, Krisis di dalam Pendidikan Seni Bina, Dewan Budaya, Oktober, 1998 (Crisis in Architecture Education)
- Mohd Tajuddin, Konsep Asal Seni Bina Masjid, 1998(The Original Concept of the Mosque)
- Mohd Tajuddin, Seni Bina Islam dan al-Hadis published in Dewan Budaya, September 1998(Al-Hadith and Islamic Architecture)
- Mohd Tajuddin, Strategi Reka Bentuk Masjid, Dewan Budaya, 1998(Mosque Design Strategy)
- Mohd Tajuddin, Ekspresi Reka Bentuk Masjid, 1998 (Mosque Design Expression)
- Mohd Tajuddin, Fungsionalisme dan Estetik Mesin di dalam Seni Bina, Dewan Budaya Disember, 1998 (The Problem of Machine Functionalisme in Architecture)
- Mohd Tajuddin, Modernistik Ekspresionisme di Malaysia, Dewan Budaya, Oktober, 1999
- Mohd Tajuddin, Mosque Architecture in Malaysia: Classification of Styles and Possible Influences, submitted to Jurnal Alam Bina 2004

- Mohd Tajuddin and Alice Sabrina, Teori Seni Bina Frank Lloyd Wright dan Aspirasi 'Seni Bina Demokrasi' di Malaysia, submitted to SARI 2004
- Mohd Tajuddin and Nangkula Utaberta, Permasalahan tentang Metodologi Pentafsiran 'Seni Bina Islam', submitted to SARI 2004
- Mohd Tajuddin and Gurupiah Mursib, Regionalisme dan Persoalan Identiti Seni Bina Malaysia, submitted to SARI 2004
- Mohd Tajuddin, Krisis Seni Bina Masjid: Rumah Tuhan, Rumah Ibadat atau Pusat Pembangunan Masyarakat submitted to SARI 2004
- Mohd Tajuddin and Kamarul Afizi Kosman, Identiti Seni Bina Malaysia: Pengajaran dari Pergerakan Art and Craft di Britain, submitted to Jurnal Alam Bina 2004
- Mohd Tajuddin and Nangkula Utaberta, Kerangka Nilai dan Konteks Sosio-Politik yang mempengaruhi Seni Bina Modern di Amerika dan Eropah, Jurnal Alam Bina 2004
- Mohd. Tajuddin, Reconstructing the Idea of Islamic Architecture from the Sunnah and Modernist Ideals, Archi-Plus Magazine, Dubai, 2006
- Mohd. Tajuddin, School Architecture and Children Safety, Architecture Malaysia, 2006
- Mohd Tajuddin, Masterminding the Architectural Heritage, Architecture Malaysia, 2006
- Mohd. Tajuddin, Jurnal Alam Bina, Modernisme dan Moral Senibina: Pemikiran Violet-le-duc dan Pugin, with Rosdan Abd. Manan, 2007
- Mohd. Tajuddin, Jurnal Alam Bina, Modernisme dan Moral Senibina: Pemikiran Morris dan Ruskin, with Rosdan Abd. Manan, 2007
- Mohd. Tajuddin International, Typologies of Mosque Architecture in Malaysia, Journal of Southeast Asia Architecture, Singapore, with Nangkula Utaberta, 2007
- Mohd. Tajuddin Rethinking Islamic Architecture, Architecture Magazine, Dubai, 2007
- Mohd. Tajuddin An Nur Mosque, MA, 2007
- Mohd. Tajuddin, Reconstructing the Idea of Islamic Architecture, Journal of Architecture, Routledge, Britain, 2008
- Mohd. Tajuddin dan Alice Sabrina, Senibina Demokrasi, Majalah PEMIKIR, 2008
- Mohamad Tajuddin and Nangkula Utaberta, 'Political Ideas of Islam and their Influence on Mosque Architecture in Malaysia', Journal of Design and Built, Faculty of Engineering and Architecture, UKM, Vol. 3. Jilid 3, 2010

And more than 62 References include (What Islamic Architecture?, History of Islam and Architectural Heritage, Islamic Architecture from the Sunnah, Mosque and Community Development, Mosques and Madrasa, House and Shelter, Trade and Travel, Forts, Fortification and Citadel, Palaces and Tombs, Prophet Era to Pious Caliphs, Ummayyad Architecture Period, Abbasid Architecture Period, Early Muslim Architecture in Africa, Early Muslim Architecture of Spain, Ayyubid and Mamluk Architecture in Egypt, Samanids and Ghaznavid Architecture of Persia, Muslim Architecture of China, Architecture of Moghuls in India and Pakistan, Architecture of Ottoman Empire, Masjid-al-Haram in Mekah, Titus Burckhardt, Syed Hussein Nasr, etc.) in International Islamic Digital Library Portal published by National Library of Malaysia, 2008. www.iidl.net.

PREVIOUS WORK EXPERIENCE

Research Officer, Public Service Department, Jan. 1987
 Executive Officer, Klang Valley College, Feb. 1987
 Lecturer, Universiti Teknologi Malaysia, July 1987
 Associate Professor, UTM, 18.8.1997

TEACHING/SUPERVISION

Teaching

Structures 1	IDS 0312	Diploma
Structures 2	IDS 1313	Diploma

Intro. to Theory &History of architecture	IDS 0712	Diploma
Modern Architecture	IDS 1742	Diploma
Western Architecture	IDS 1772	Diploma
Malaysian Architectural Heritage	IDS 2713	Diploma
Design 1	IDS 1116	Diploma
Design 2	IDS 1126	Diploma
Design 3	IDS 2116	Diploma
Design 4	IDS 2126	Diploma
Design 5	SMS 3116	Degree
Pre-Thesis	SMS 5118	Degree
Design Thesis	SMS 5128	Degree
Topical Study	SMS 4623	Degree
Independent study	SMS 4812	Degree
Theory of Architecture	SMS3712	Degree
Housing	SMS4832	Degree
Architecture Human Behavior	SMS4632	Degree

Supervision

POST GRADUATE SUPERVISION (PH.D, GRADUATED)

- Gurupiah Mursib, Ph.D, Perkembangan Regionalisme di Malaysia, 2002 – 2008
- Alice Sabrina Ismail, The Political Ideas of Islam and its Influence on Mosque Architecture in Malaysia, Ph.D, Queensland Uni. Of Tech., 2005 - 2008
- Nangkula Utaberta, Sejarah Pemikiran Senibina Islam di Nusantara kurun ke 20, Ph.D, 2006 – 2009
- Kamarul Afizi Kosman Ph.D, Sejarah Perkembangan Struktur Kurikulum Senibina UTM, 1920 – 2008, 2008 - 2010
- Azimin Tazilan (daftar UKM, external super), Perancangan dan sejarah Senibina Mikro di Malaysia, 2007 -2010
- Mohd. Zafarullah M. Taib, Persepsi Kesucian Ruang Masjid di Malaysia, Ph.D, 2008 – 2010
- Zumahiran (Ph. D), Ikonografi Ukiran Rumah Tradisional Melayu, (co-super), 2007 – 2011
- Ar. Mastor Surat (Ph.D., daftar UKM , external super), Penjelasan Kesahihan Kubah sebagai Elemen Utama Senibina Islam, 2009 – 2011
- Fawazul Khair Ibrahim (Ph.D), Klasifikasi Keris Hulu Tajung, 2008 – 2011

POST GRADUATE SUPERVISION (MASTER, GRADUATED)

- Mohamad Syarif Hidayat, Master, Seni bina Kenekes Tradisi, 1997-1999
- Alice Sabrina Ismail, Master, Gagasan Pemikiran Wright dan Permasalahan Identiti Nasional, 2001-2002
- Mastor Surat, Master, Teori Masjid Vernakular Nusantara, Institut Alam dan Tamadun Melayu, UKM, Master, 2005 - 2008
- Raalah Mohamad, Master, 17th Century Traditional Mosques of Malacca, 2001-2003
- Nangkula Utaberta, Master, Nilai-Nilai Moral dalam Seni Bina Frank Lloyd Wright, 2004-2005
- Rosdan Abdul Manan, Pengaruh Nilai-Nilai Moral dalam Modemisme, 2004 - 2007

- KAMARULAFIZI KOSMAN, IDENTITI SENI BINA MALAYSIA: PENGAJARAN DARI PERGERAKAN ART AND CRAFT DAN INSTITUSI WERKBUND, 2004 - 2006
- CHEAH KHAI KID , ARCHITECTURE AND ORNAMNETATION: STRAITS CHINESE ARCHITECTURE, MASTER, PART TIME, 2004 - 2008
- Norhayati Ramli, Adaptive Reuse of Mosques in Malaysia, part time, Master, 2005 – 2010
- Nik Farah Elina, Penilaian Tipologi Rumah Teres dari sudut Budaya, Master, 2007 – 2010
- Norliza Isa, Corak Perkembangan Pengubahsuaian Masjid, Master, 2006 – 2009
- Zazarida Ramli (Master), Penilaian Keberkesanan Studio Tahun Satu dalam Pembelajaran Senibina, 2004 – 2010

•

POST GRADUATE SUPERVISION (CURRENT SUPERVISED)

- Norhayati Hussein, The Architecture of Malayan Architects Co-Partnership, Ph.D, part time, 2005 -
- Noor Azizi (UPM) Ph.D, Architecture of Power: From Sri Vijaya to Putrajaya, 2005-
- Saniah Ahmad Zaki (daftar UTM) (external super)Ph.D, Crime and Planning using Computer Matrix, 2008
- Mohd. Norizam (Ph.D) (co-super), Konsep Perbandaran Islam dari Sunnah, 2009 –
- Ahmed N Mohammed, Totalitarian 'Islamic Architecture' of Saddam Hussein, 2009, Ph.D
- M. Fakhrlul, Tataletak Ukiran Rumah Tradisional Melayu, 2007-

AWARDS

- Anugerah Buku Negara, 2012 Warisan Senibina Tradisinal Islam, DBP
- Tokoh Penulisan, UTM, 2006
- Main Publication Award (Book), The Mosque as a Community Development Center, UTM, 1998
- Publication Award (Second Place, Book), Peranan, Kurikulum dan Reka Bentuk Masjid, UTM, 1999
- Publication Award (Honorary Mention), The Traditional Mosques, UTM, 2000
- Publication Award (Honorary Mention), Atrium Design for Tropics, UTM, 2000
- Publication Award (Honorary Mention), Konsep Perbandaran Islam, UTM, 2001
- Publication Award (Honorary Mention), Identiti Seni Bina Malaysia, UTM, 2001
- Aga Khan Post Doctoral Fellowship in Islamic Architecture 2002, Massachusetts Institute of Technology, USA
- Mubbin Sheppard Memorial Prize 4th Cycle 2000/2001
- Pertubuhan Arkitek Malaysia, Southern Chapter, 2nd August 2003 (Architectural Criticism)
- Faculty of Built Environment Award for Best Writing, 2006
- Malaysia Technology Expo 2009, EsCube: Eco-sustainable Street Cubicle Unit Base Energy, 2009, Azimin Tazilan, Hood Salleh, Ibrahim Komo, M. Tajuddin, Zafri, Chia
- Malaysia Technology Expo 2009, Escpose: Eco-sustainable Street Post on Self Energy, 2009, Azimin Tazilan, Hood Salleh, Ibrahim Komo, M. Tajuddin, Zafri, Chia
- Award from the Governor of West Sumatra for being a Nara Sumber at the Mosque Lokakrya, 2006
- Anugerah Buku Negara (National Book Award), 2012

OTHER CONTRIBUTIONS

Evaluation of Academic Papers

- Art of Woodcarving in timber Mosques of Peninsular Malaysia and Southern Thailand, Jurnal Teknologi, UTM, June 2001
- The Impact of Sight Restrictions on Muslim Architecture, Intellectual Discourse, International Islamic University, Malaysia, 2000

- Islamic Values in House Design, Journal of HBP, USM, June 2001
- Image, Style and Status: A Sketch of the Role and Impact of Private Enterprise as a Commissioner on Architecture and Urban Development in the Dutch East Indies from 1870 to 1942, Journal of South East Asian Architecture, National University of Singapore, 2003
- Tropical Architecture from the point of view of Fire Safety, Journal of South East Asian Architecture, National University of Singapore, 2003
- A Celebration of Diversity: Zheng He and the Origin of Pre-Colonial Coastal Urban Pattern in South East Asia, Journal of South East Asian Architecture, National University of Singapore, 2003
- Colonialism and the Formation of National Identity: Tan Kah Kee's Nationalism in Architectural Discourse, 1910 – 1950, Journal of South East Asian Architecture, National University of Singapore, 2003
- Ikonografi Motif pada Komponen Kayu di dalam Tokong Cina, Jurnal Teknologi, UTM, 2002
- Integrating Nuances of Local Urban environmental Characteristics and Community in High Rise High Density Development, Modern Asian Architecture Network (MaaN) 2nd. Conference, National University of Singapore, 2002
- The Restoration of National Archives Building Republic Indonesia: Public-Private Partnership project on Government Owned Property, Modern Asian Architecture Network (MaaN) 2nd. Conference, National University of Singapore, 2002
- Architecture and Mass Media Representation in Documentary Making, Modern Asian Architecture Network (MaaN) 2nd. Conference, National University of Singapore, 2002
- CSEA Seminar, 5 papers, 2007

Speaker at Workshop

- Research Methodology for Social Sciences, UTM, 2006, 2007, 2008, 2009
- Research and Writing Workshop, Taylors University College, 2009
- Research and Writing Workshop, Universitas Islam Nagari, Malang, 2009
- PAM CPD Lecture, Sarawak, Crime and Architecture, 2007
- PAM CPD Lecture, KL, Crime and Architecture, 2006-2007
- Public Lecture with Nangkula, 'Pemikiran Semula Senibina Islam', Universitas Islam Nagari, Malang, Indonesia, 6/12/2009
- Post Graduate Workshop on Research, UTM, 2008
- Harvard Intervener and Lecturer, UTM, 2007

Examination of Post-Graduate Thesis

- Mona Attie, Islamic Culture and Architecture, Curtin University, Australia, Master, 2000
- Sudirman Is, Konsep Perancangan Ruang rumah Adat Minangkabau, 2000, UTM, Ph.D
- Mohamad Nawawiy Loebis, USM, Architecture in Transformation: Architecture of Batak Toba, 2002, Ph.D
- Ismail Said, Ph.D., Therapeutic Garden, 2006
- Mahmud Jusawn, Ph.D., Renovation and Cultural Values in Malaysian Housing, 2006
- Lalu Mulyadi, Ph. D, Karektor Bandar Cakranagara, 2008
- Bakhti Alam Syah, Ph.D. Tipologi Rumah Adat Nias dari aspek BudayaUniversiti Sains Malaysia, HBP, 13/6/12
- Mohd. Adam, Klassifikasi Tanggam Rumah Melayu Tradisional, Master, UKM, Bangi, 20/4/12

DR.Nik Lukman Nik Ibrahim

Date of Birth : 08th April 1972
 Nationality : Malaysian

TELEPHONE, FAX & EMAIL :

603 8921 6681 (Office), 013 9094648 (Mobile)
n.lukman@gmail.com, lukman@eng.ukm.my

CURRENT POST: Head of Architecture Department, Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor, Malaysia

ACADEMIC BACKGROUND (UNIVERSITY)

Year	Degree	Institute
2009	Doctor of Philosophy	University of Sydney, New South Wales, Australia
2003	Master of Philosophy (Architecture)	University of Sydney, New South Wales, Australia
1999	Bachelor of Architecture	University of Tasmania (Launceston), Australia
1997	Bachelor of. Environmental Design	University of Tasmania (Hobart), Australia

CAREER HISTORY

July 2003 – Present	Lecturer. Department of Architecture, Faculty of Engineering & Built Environment, Universiti Kebangsaan Malaysia.
Sept 2002 – July 2003	Project Architect. FAU Arkitek, Wangsa Maju.
Mar 2003 – Dec 2003	Lecturer (Part Time). Architecture Department, Faculty of Built Environment, Universiti Malaya.
Sept.2002 – Dec 2002	Tutor (Part Time). Architecture Department, Faculty of Built Environment, Universiti Malaya.
2001	Tutor (Part Time). Department of Architectural Science and Allied Arts, University of Sydney, NSW, Australia.
Feb 2000 – Aug 2000	Research Assistant at Department of Architecture, Faculty of Built Environment, Universiti Malaya.

TEACHING AND SUPERVISION**List of Courses Taught (Undergraduate Programs)**

Session	Semester	Code	Courses
2009/2010	2	KKSB1216	REKABENTUK SENI BINA II
2009/2010	2	KKSB1223	SEJARAH SENI BINA II
2009/2010	2	KKSB2253	SAINS PERSEKITARAN DAN KEMUDAHAN II
2009/2010	2	KKSB1243	SAINS PERSEKITARAN DAN KEMUDAHAN I
2009/2010	2	KKSB3233	PENGAJIAN TOPIKAL
2006/2007	1	KKSB2132	TEORI DAN IDEA SENI BINA
2006/2007	1	KKSB3216	REKABENTUK SENI BINA VI

2005/2006	2	KKSB1223	SEJARAH SENI BINA II
2005/2006	2	KKSB1243	SAINS PERSEKITARAN DAN KEMUDAHAN I
2005/2006	2	KKSB3116	REKABENTUK SENI BINA V
2005/2006	2	KKSB3233	PENGAJIAN TOPIKAL
2005/2006	1	KKSB1123	SEJARAH SENI BINA I
2005/2006	1	KKSB1216	REKABENTUK SENI BINA II
2005/2006	1	KKSB2132	TEORI DAN IDEA SENI BINA
2004/2005	2	KKSB1216	REKABENTUK SENI BINA II
2004/2005	2	KKSB1243	SAINS PERSEKITARAN DAN KEMUDAHAN I
2004/2005	2	KKSB2253	SAINS PERSEKITARAN DAN KEMUDAHAN II
2004/2005	1	KKSB1116	REKABENTUK SENI BINA I
2004/2005	1	KKSB1123	SEJARAH SENI BINA I
2004/2005	1	KKSB2132	TEORI DAN IDEA SENI BINA
2003/2004	2	KKSB1216	REKABENTUK SENI BINA II
2003/2004	2	KKSB1223	SEJARAH SENI BINA II
2003/2004	2	KKSB1243	SAINS PERSEKITARAN DAN KEMUDAHAN I
2003/2004	1	KKSB1116	REKABENTUK SENI BINA I
2003/2004	1	KKSB1123	SEJARAH SENI BINA I

Publications: Journals

No.	Articles & Journals	Year	Authors
1.	Daylighting Rule of Thumb for Room with External Obstruction, Architectural Science Review , (Vol.52, No.2, pp.151-160). Earthscan Publishing: London.	2009	Nik Lukman Nik Ibrahim, Simon Hayman & Richard Hyde
2.	Daylighting Rule of Thumb and Typology, Jurnal Alam Cipta: International Journal on Sustainable Tropical Design Research and Practice (Vol.3, Issue 1, pp. 25-33). Universiti Putra Malaysia: Serdang.	2008	Nik Lukman Nik Ibrahim & Kamarul Afizi Kosman
3	Penerapan Aspek Seni Bina Melayu Ke arah Melahirkan Identiti Seni Bina Malaysia: permasalahan dan kaedah menanganinya, Jurnal SARI (Jilid 25). Universiti Kebangsaan Malaysia: Bangi.	July 2007	Kamarul Afizi Kosman & Nik Lukman Nik Ibrahim
4.	The Role of Internet in Design and Construction, Building Design + Construction Journal (pp.1-53). BCI Asia & BCI Australia: Sydney.	June 2002	Peter Droege, Nathan Stass & Nik Lukman Nik Ibrahim

BOOKS

No.	Book Titles	Year	Author
1.	Sejarah Senibina Moden ISBN: 983-43231-0-7	2007	Nik Lukman Nik Ibrahim
2.	Sejarah Senibina Awal ISBN: 978-983-43231-1-0	2007	Nik Lukman Nik Ibrahim
3.	Teori dan Idea Senibina ISBN: 983-43231-0-7	2006	Nik Lukman Nik Ibrahim

No.	Papers & Proceedings	Year	Authors
1.	I. THE INFLUENCE OF LATITUDE VARIATIONS ON DAYLIGHTING RULE OF THUMB EFFECTIVENESS. Proceedings of the 43rd Conference of the Australian and New Zealand Architectural Science Association (ANZAScA 2009) , University of Tasmania, Australia.	November 2009	Nik Lukman Nik Ibrahim, Simon Hayman & Richard Hyde.
2	Daylighting Rule of Thumb for Rooms with External Obstructions. Proceedings of the 42nd Conference of the Australian and New Zealand Architectural Science Association (ANZAScA 2008) , pp.51-58. University of Newcastle, Australia.	November 2008	Nik Lukman Nik Ibrahim, Simon Hayman & Richard Hyde
3.	Semiotik Seni Bina. Seminar Antarabangsa Kesusteraan Melayu IX (SAKM IX) [Kuantan] (pp.17.1-17.10). FSSK, UKM: Bangi.	26-28th October 2007	Nik Lukman Nik Ibrahim & Kamarul Afizi Kosman
4.	Typologies and Daylight, Engineering, Mathematics and Architecture Regional Seminar (EM³ARC) . Fakulti Kejuruteraan, UKM: Bangi.	2007	Nik Lukman Nik Ibrahim & Kamarul Afizi Kosman
5.	Housing Problems in Libya and the Development of Housing in Desert Zone (Ghadames Area). Prosiding Seminar Penyelidikan Siswazah 2006 (pp.73-76). Fakulti Kejuruteraan & Pusat Pengajian Siswazah, UKM.	29-30th August 2006	Nura S. Mohamed, Zuhairuse Md. Darus & Nik Lukman Nik Ibrahim
6.	Innovative Daylighting: Top Aperture & Reflective Ceiling. International Conference on Construction Industry (ICCI) . Universitas Bung Hatta, Padang, West Sumatera.	21-24th June 2006	Nik Lukman Nik Ibrahim, Kamarul Afizi Kosman, Ismar, Zuhairuse Md Darus, Azimin Samsul Mohd Tazilan & Azami Zaharim
7.	Current Use Of Daylighting Principles in Architecture Professional Practices in New South Wales International Conference on Construction Industry (ICCI) . Universitas Bung Hatta, Padang, West Sumatera.	21-24th June 2006	Nik Lukman Nik Ibrahim & Hafizah Seman
8	Malaysia Ecology Sustainable Toilet [M.E.S.T] : New Design Paradigm For Green & Zero Energy Public Toilets. International Conference on Construction Industry (ICCI) .	21-24th June 2006	Azimin Samsul M Tazilan, Nik Lukman Nik Ibrahim, Zuhairuse M Darus, & Isma. MS. Usman.
9.	Kinetic Dividers for Low Energy Home Office. International Conference on Construction Industry (ICCI) . Universitas Bung Hatta, Padang, West Sumatera.	21-24th June 2006	Azimin Samsul Mohd Tazilan, Abdul Halim Ismail, Nik Lukman Nik Ibrahim, Zuhairuse Md Darus, Ahmad Rasdan Ismail & Ismar MS Usman

No.	Papers & Proceedings	Year	Authors
10.	Gated Community, Development & Social Issues. . International Conference on Construction Industry (ICCI) . Universitas Bung Hatta, Padang, West Sumatera.	21-24th June 2006	Ismar MS Usman, Zuhairuse Md Darus, Nik Lukman Nik Ibrahim & Azimin Samsul Mohd Tazilan.
11.	Transit Station as Part of city Art Architecture. International Conference on Construction Industry (ICCI) . Universitas Bung Hatta, Padang, West Sumatera.	21-24th June 2006	Akmal Goh, Ismar MS Usman, Zuhairuse Md Darus, Nik Lukman Nik Ibrahim & Azimin Samsul Mohd Tazilan.
12.	Verandah - The Art Of Outdoor Living And Planning. . International Conference on Construction Industry (ICCI) . Universitas Bung Hatta, Padang, West Sumatera.	21-24th June 2006	Zuhairuse Md. Darus, Roslan Saat, Nik Lukman Nik Ibrahim, Abdul Halim Ismail, & Ismar M.S. Usman
13.	Taking Cues From The Past: Increasing The Livability Of Terrace Housing In Malaysia Through The Raised Floor Innovation. International Conference on Construction Industry (ICCI) . Universitas Bung Hatta, Padang, West Sumatera.	21-24th June 2006	Mazlan Mohd Tahir, Nur Akmal Goh Abdullah, Azimin Samsul Mohd Tazilan, Nik Lukman Nik Ibrahim, Mastor Surat, Abdul Halim Ismail, Zuhairuse Md Darus, & Ismar M.S. Usman
14.	Innovative Top-Lit Building Designs in Putrajaya and in Kuala Lumpur, Malaysia. PLEA2005: The 22nd Conference on Passive and Low Energy Architecture . Beirut, Lebanon.	13-16th November 2005	Nila Inangda, S.P. Rao & Nik Lukman Nik Ibrahim
15.	Detection of Additive Outliers in BL(1,1,1,1) Model. Proceedings of The 2nd International Conference on Research and Education in Mathematics (ICREM 2).	2005	Azami Zaharim, Azimin Samsul Mohd Tazilan, Mazlan Mohd Tahir & Nik Lukman Nik Ibrahim :
16.	Daylighting Design of New Buildings in Putrajaya . The 2 nd National Seminar on Energy in Buildings (SEB2005). UiTM: Shah Alam.	10-11th May 2005	Nik Lukman Nik Ibrahim, Siti Rozlina Mohamed Ali & Kamaruzzaman Sopian
17.	Daylight Distributions Inside Double Façade Buildings. The 2nd National Seminar on Energy in Buildings (SEB2005) . UiTM: Shah Alam.	10-11th May 2005	Siti Rozlina Mohamed Ali, Nik Lukman Nik Ibrahim, Kamaruzzaman Sopian, Fauziah Sulaiman.
18.	Daylight Design Rules of Thumb. Conference on Sustainable Building South East Asia . UTM.	11-13th April 2005	Nik Lukman Nik Ibrahim & Simon Hayman
19.	Daylighting Design Rules of Thumb, Proceedings of the 36 th Conference of the Australian and New Zealand Architectural Science Association (ANZAScA 2002), pp.347-354. Deakin University: Geelong, Victoria, Australia.	1-4th November 2002	Nik Lukman Nik Ibrahim & Simon Hayman

SR. DR. ADI IRFAN CHE ANI

Jabatan Seni Bina, Fakulti Kejuruteraan dan Alam Bina, Universiti Kebangsaan Malaysia 43600 Bangi, Selangor.

adiirfan@vlsi.eng.ukm.my / adiirfan@gmail.com

Tel: 03-8921 6299

Fax: 03-8921 6481

KELAYAKAN AKADEMIK

1. PhD, Universiti Malaya, Facility Management, 2007
2. Professional Diploma, Institution of Surveyor Malaysia, Building Surveying, 2005
3. BSc (Hons), University Technology Mara, Shah Alam, Building Surveying, 2003

BIDANG KEPAKARAN

Building Surveyor and Management

PENGALAMAN KERJA

1. May 2000 – Sept 2000 - Site Supervisor (practical training during Diploma), Projek Perumahan Rakyat (PPR), Lembah Pantai, Kuala Lumpur, Malaysia
2. 1 July 2003 – 31 Oct 2007 - Tutor, Universiti Kebangsaan Malaysia (UKM), Malaysia
3. Feb 2005 – August 2005 - Contract Site Engineer, FRIM
4. 1 Sept 2004 – 30 Nov 2005 - MSc (Construction) Candidate in Department of Building Surveying, Faculty of Built Environment, University of Malaya, Kuala Lumpur, Malaysia
5. 1 Sept 2004 – 31 Oct 2007 - PhD Candidate (Facility Management) in Department of Building Surveying, Faculty of Built Environment, University of Malaya, Kuala Lumpur, Malaysia (Conversion from MSc to Phd candidature)
6. 1 Nov 2007 – 5 Feb 2008 – Pensyarah, UKM
7. 6 Feb 2008 – sekarang - Pensyarah Senior, UKM

PENULISAN & PENERBITAN

Jumlah Keseluruhan: 116

(a) Senarai Jurnal Pilihan

- (i) M.M. Tahir, A.I. Che-Ani, N.A.G. Abdullah, N.M. Tawil, M. Surat, A. Ramly (2010). "The Concept of Raised Floor Innovation for Terrace Housing in Tropical Climate". *Journal of Surveying, Construction and Property*. Vol. 1/2010. (in-press). [ISSN 1985-7527].
- (ii) A.I. Che-Ani, A.E. Hashim, A. Ramly, N.H. Ishak, N.A. Ahmad (2009). "Punca Kecacatan Binaan Kayu Akibat Daripada Serangan Serangga dan Kulat". *The Malaysian Surveyor*. 44.4. December 09. (in-press). [ISSN 0127-4937].
- (iii) N.M. Tawil, A.I. Che-Ani, M.M. Tahir, N.A.G. Abdullah, M.K.A. Mat-Sulaiman (2009). "Kepentingan Kutipan Dana Pengurusan Untuk Perumahan Bertingkat". *Journal of Design + Built*. Vol. 2/2009. pp. 36-41. [ISSN: 1985-6881].
- (iv) N.M. Tawil, A. Ramly, A.I. Che-Ani, I.M.S Usman, M.M. Tahir, M.F.M. Zain, A. Zaharim (2009). "Service Charge Collection of High-Rise Residential In Kuala Lumpur, Malaysia; Owner's Perspective". *European Journal of Sosial Sciences*. Vol. 10 No. 1 Oct 09. pp. 7-12. [ISSN 1450-2267].
- (v) A.I. Che-Ani, P. Shahmohamadi, A. Sairi, M.F.I. Mohd-Nor, M.F.M. Zain, M. Surat (2009). "Mitigating the Urban Heat Island Effect: Some Points Without Altering Existing City Planning". *European Journal of Scientific Research*. Vol. 35 No. 2 Aug 09. pp. 204-216. [ISSN 1450-216X].

(b) Prosidang/Seminar/Persidangan

- (i) M. Surat, M.M. Tahir, I.M.S. Usman, A.I. Che-Ani, N.A.G. Abdullah, N.M. Tawil, R. Ismail, M.F.I. Mohd-Nor (2010). "Re-Evaluating the Idea of a Malaysian Architectural Identity towards a Sustainable Environment". The 5th IASME/WSEAS International Conference on Energy and Environment (EE'10). University of Cambridge, Cambridge, United Kingdom. February 2010. N.M. Tawil, A.I. Che-Ani, I.M.S Usman, M.F.M. Zain, M.N. Daud (2010). "Management Difficulties in

- Managing High-Rise Residential Complexes in Malaysia: The Service Charge Aspect". The 5th IASME/WSEAS International Conference on Energy and Environment (EE'10). University of Cambridge, Cambridge, United Kingdom. 23-25 February 2010. pp. 31-35.
- (ii) M.M. Tahir, M.F.M. Zain, K. Sopian, I.M.S. Usman, M.Surat, N.A.G. Abdullah, N.M. Tawil, M.F.I. Mohd-Nor, A.I. Che-Ani (2010). "The Development of a Sustainably Responsive Ultra Low Energy Terrace Housing for the Tropics Incorporating the Raised Floor Innovation". The 5th IASME/WSEAS International Conference on Energy and Environment (EE'10). University of Cambridge, Cambridge, United Kingdom. 23-25 February 2010. pp. 36-45.
- (iii) N.M. Tawil, A.I. Che-Ani, N.A.G. Abdullah, A. Zaharim, I.M.S Usman (2010). "Sustainable Management Fund System for High-Rise Residential Management, Kuala Lumpur Malaysia". The 5th IASME/WSEAS International Conference on Energy and Environment (EE'10). University of Cambridge, Cambridge, United Kingdom. 23-25 February 2010. pp. 287-291.
- (iv) A.I. Che-Ani, N.M. Tawil, M.Z. Zakiyuddin, M.M. Tahir, A. Ramly, M. Jamil (2009). "Pengukuran Keberkesanan Pengurusan Fasiliti Perumahan Bertingkat Bukan Kos Rendah". Simposium Alam Bina Serantau 2009. Universiti Kebangsaan Malaysia – Universitas Bung Hatta. Padang, Sumatera Barat, Indonesia. 25-27 July 2009. pp. 87-94.

KERJA RUNDINGAN

Building Condition Survey Report and Monitoring of 25 Unit Double-Storey Terrace House (Taman Wawasan) For Tetuan Majlis Perbandaran Subang Jaya
 Proposed Rainwater Harvesting System For Additional Building of Faculty of Engineering & Built Environment, UKM
 Proposed Rainwater Harvesting System For Laboratory Block Faculty of Science & Technology, UKM
 Building Condition Survey Report of Fakulti Sains Sosial & Kemanusiaan (FSSK) For Tetuan Universiti Malaya
 Building Condition Survey Report of Wisma TM For Tetuan Universiti Malaya

ANUGERAH YANG DITERIMA

Best Paper Award, H. Farkisch, A.I. Che-Ani, M. Surat, M.F. M. Zain, V. Ahmadi, M. Asadi (2009). "The Role of Traditional Neighborhood Centers in Procreating Sense of Place in the Modern Cities". The Regional Engineering Postgraduate Conference (EPC) 2009. Putrajaya. 20-21 October 2009. Awarded on 21.10.2009

Excellence Service Award (APC), Universiti Kebangsaan Malaysia. Awarded on 5.6.2009

Merit Award, International Real Estate Research Symposium (IRERS), Recognition of A Promising Research Paper. Awarded on 29.4.2008

Best Student Faculty of Architecture, Planning & Surveying, Building Surveying Association (BISA), UiTM (1.10.2005)

Academic (Bumiputra) Training Scheme (SLAB) Program for MSc/PhD Sponsorship, SLAB JPA/UKM (1.9.2004)

Gold Medal Best Student Building Surveying 2004, Institution of Surveyors Malaysia (ISM) (18.6.2004)

Vice Chancellor Award, UiTM (22.9.2003)

Best Student Faculty of Architecture, Planning & Surveying for BSc. (Hons) Program, UiTM (22.9.2003)

Best Student BSc. (Hons) In Building Surveying, UiTM (22.9.2003)

Best Student BSc. In Building Surveying, Department of Building Surveying, UiTM (12.9.2003)

Best Student (April 2003 Final Examination), Department of Building Surveying, UiTM

Achievement of Exam Result for G.P.A 3.5 & Above (April 2003 Final Examination), Department of Building Surveying, UiTM (12.9.2003)

Best Student BSc. (Hons) In Building Surveying, (Dec 2002 – May 2003 Session), Faculty of Architecture, Planning & Surveying, UiTM (July 2003)

Dean's List, BSc. (Hons) In Building Surveying, UiTM, Semester 4 Final Examination 2003

Dean's List, BSc. (Hons) In Building Surveying, UiTM, Semester 3 Final Examination 2002

Dean's List, BSc. (Hons) In Building Surveying, UiTM, Semester 2 Final Examination 2002

Dean's List, BSc. (Hons) In Building Surveying, UiTM, Semester 1 Final Examination 2001

Best Student, Diploma In Building Surveying, UiTM (11.10.2001)

Dean's List, Diploma In Building Surveying, UiTM, Semester 6 Final Examination (April 2001)

Dean's List, Diploma In Building Surveying, UiTM, Semester 2 Final Examination (April 1999)

KEAHLIAN PROFESIONAL & AKTIVITI LUAR

1. Corporate Member (12298), Association of Building Engineers (ABE), United Kingdom since 19 April 2005 to date.
2. Student Member (1254779), Royal Institution of Chartered Surveyors (RICS), United Kingdom since June 2007 to date.
3. Corporate Member (M2892), Institution of Surveyors Malaysia (Building Surveying Division) since 12 August 2005 to date.
4. Committee Member, The 12th International Surveyors Congress, ISM. Appointment dated on 26 June 2009 until 25 June 2010.
5. Committee Member, Building Surveying Division, Institution of Surveyors Malaysia (ISM) for Session 2009/2010. Appointment dated on 26 June 2009 until 25 June 2010.
6. Chairman, Junior Organization Committee, Building Surveying Division, Institution of Surveyors Malaysia (ISM) for Session 2009/2010. Appointment dated on 26 June 2009 until 25 June 2010.
7. Sub-Committee Member, Editorial of ISM Journal. Building Surveying Division, Institution of Surveyors Malaysia (ISM) for Session 2009/2010. Appointment dated on 2009 until 2010.
8. Committee Member, Building Surveying Division, Institution of Surveyors Malaysia (ISM) for Session 2008/2009. Appointment dated on 26 June 2008 until 25 June 2009.
9. Chairman, Junior Organization Committee, Building Surveying Division, Institution of Surveyors Malaysia (ISM) for Session 2008/2009. Appointment dated on 26 June 2008 until 25 June 2009.
10. Sub-Committee Member, Editorial of ISM Journal. Building Surveying Division, Institution of Surveyors Malaysia (ISM) for Session 2008/2009. Appointment dated on 2008 until 25 June 2009.
11. Co-opted Member, Building Surveying Division, Institution of Surveyors Malaysia (ISM) for Session 2007/2008. Appointment dated on 26 November 2007 until 26 June 2008.
12. Member of Junior Organisation Sub-Committee, Session 2001/2002 Building Surveying Division, Institution of Surveyors Malaysia (ISM).
13. Chairman, BS Jamboree Program. Organized by The Institution of Surveyors Malaysia (ISM) and Building Surveying Division, UiTM Perak (4-6 December 2009).
14. Committee Member, Teaching and Learning Congress (Engineering and Built Environment), UKM (14 April 2009 to 31 December 2009).

Dr. Nangkula Utaberta IAI

Born : Jakarta, October 5th 1979
 Nationality : Indonesia
 Phone : 019-2423816 (HP), 03-89217035 (Office)
 E-mail : nangkula_arch@yahoo.com

2. Academic Qualification

PhD in Architecture (2006-2009), Universiti Teknologi Malaysia
 Thesis title: "The Development of 20th Century's Modern Islamic Architecture Thought in Nusantara."
 Master of Architecture (2003-2005), Universiti Teknologi Malaysia
 Thesis title: Towards Islamic Architecture from Al-Qur'an and Sunna': Study from Frank Lloyd Wright's Design Approaches.
 Bachelor of Architecture Engineering from Universitas Indonesia (1998-2003)
 Professional Degree (5 years program)
 Leadership Development Program (LDP), Universitas Indonesia (1999).
 ArchiCAD and AutoCAD Course, International Art & Architecture (2002).
 Deutschland Language for Basic Level (1997).

3. Professional Qualification

3.1 Professional Membership:

1. Professional and Academic Members of Indonesian Architect Institute/ IAI (2003-Now), No: 13332112100, IAI-Jakarta.

2. Professional and Associate Members of Malaysian Steel Structure Association/ MSSA (2010-Now)-AM 0034.

3.2 Professional Experience:

1. Honorary Board of Design Advisor, Realife International Design Consultant, Depok, Jakarta (2011-present)
2. Director for 'International Relationship' and Architect of W+a Architect Firm, Jakarta (2000-2007)
3. Assistant Architect for the design of Sport & Club Center, Negeri Sembilan (2003-2004)
4. Assistant Architect for the development of City Mosque Al – Azhar, Bekasi (2000-2001).

4. Field of Expertise

History, Theory and Philosophy of Architecture with a focus on:

- Islamic Architecture
- Modern and Post Modern Architecture
- Architecture Education

5. Teaching Folio (11th years)

Senior Lecturer, Department of Architecture, Faculty of Engineering and Built Environment, National University of Malaysia (2009-present)

Subject: Design Studio 3 & 4-Studio Master (KKSB 2116/2118 and 2216/ 2218-2nd Year)

Theory and Idea in Architecture (KKSB 2132-2nd Year)

Theory and Design of Malay Architecture (KKSB 3122-3rd Year)

Theory of Malay Architecture and Ethnic (KKSB 2222-2nd Year)

Topical Studies (KKSB 3223-3rd Year)

Design Thesis & Dessertation (KKSB 5118-5th Year)

Visiting Lecturer, National Islamic Universiti (UIN), Malang, Indonesia (2009)

Advisor for Post Graduate Student and Lecturer Academic Development.

Deputy Dean & Acting Dean, School of Architecture and Design, Legenda Education Group, Mantin, Negeri Sembilan (2007-2009)

Senior Lecturer, School of Built Environment, Legenda Education Groups, Mantin,

Negeri Sembilan (2007-2009)

Subject: Structure Behaviour & Detailing (Final Years)

Architecture Design Theory (Second Years).

Working Drawing (Foundation).

Lecturer, School of Built Environment, Institut Teknologi Pertama, Legenda Groups of Colleges, Mantin Negeri Sembilan (2006-2007)

Subject: Architecture Project 1 (Residential House-Third Years).

Design Technology (Third Years).

Working Drawing (Foundation).

Lecturer, Architecture Department, Universitas Indonesia (2006-2007)

Subject: Design Studio 3 (Third Years)

Theory and History of Architecture (Second Years).

Part-Time Lecturer, Architecture Department, Universiti Teknologi Malaysia (2005-2006)

Subject: Basic Design (First Years)

Studio 1 (First Years)

Theory and History of Architecture (Second Years)

Modern Architecture (Fourth Years)

Lecturer, School of Professional and Continuing Study (SPACE), UTM (2005-2006)

Subject: Theory and History of Architecture (final Years).

Independent Study (third years)

Visiting Lecturer for Universitas Muhammadiyah Surakarta (2005).

Subject: Design Studio-Islamic Architecture (First Years)

Islamic Housing (Third Years).

Building Typology (Second Years).

Teaching Assistant, Architecture Department, Universiti Teknologi Malaysia (2004-2005).

Subject: Introduction to a History and Theory of Architecture (First Years).

Modern Architecture (Second and Third Years).

Design Studio: High Rise (Fourth Years).

Assistant Lecturer, Architecture Department, Universitas Indonesia (2000-2003)

Subject: Building Physic (third years)
Structure and Construction (Third Years)

9. Publication

9.1 Book :

1. Nangkula Utaberta, 2012, Contemporary Architecture of Islamic Societies between Globalization and Tradition, 2nd Edition, International Research Book, Chief Editor, Penerbit UIN. Malang (in progress)
2. Nangkula Utaberta & Mohamad Tajuddin Mohd Rasdi, Islamic Architecture Thought in Malaysia (Writer), Published by Universiti Teknologi Malaysia Press, Johor-Malaysia, 2012 (in Progress).
3. Nangkula Utaberta & Mohamad Tajuddin Mohd Rasdi, Islamic Architecture: A Rethinking (Writer), Published by Dewan Bahasa dan Pustaka, KL, 2012 (in Progress).
4. H.S. Hashim, N.A.G. Abdullah, A. Ismail, M.F. Mohd Zain, A.I Che Ani, I. Arshad, I.M.S. Usman, M. Surat, N. Utaberta, N.M. Tawil, M. Mohd Tahir, M. Jamil, M.F.I. Mohd Nor, M.K.A. Mat Sulaiman, 2011, Polisi dan strategi garis panduan rekabentuk kampus lestari UKM : versi 1 Januari 2011, Pengarang, Melibatkan Penyelidikan, 9789834399542, 98, Kumpulan Rekabentuk Lestari UKM, Bangi, Selangor, Salinan Keras & Lembut.
5. Nangkula Utaberta, N.A.G. Abdullah, Nurhananie Spalie, Mazlan Mohd Tahir, 2011, Ke Arah Seni Bina Baharu: Sebuah Terjemahan daripada Versi Une Architecture, Le Corbusier, Pengarang Utama, 9834399559, Jabatan Seni Bina, FKAB, UKM
6. Nangkula Utaberta, Islamic Architecture: Discourse, Thought and Design Concept- *Arsitektur Islam: Diskusi, Pemikiran dan Konsep Reka-Bentuk* (Writer), Published by Universitas Gadjah Mada Press, Yogyakarta, November 2008.
7. Mohammad Tajuddin, Nangkula Utaberta, History, Theory and Critique in Architecture-*Sejarah, Teori dan Kritikan Seni Bina* (Co-Writer), KALAM Publication, September 2003.
8. Mohammad Tajuddin, Nangkula Utaberta, Muslim Architecture in Peninsular Malaysia (Co-Writer), KALAM Publication, August 2003.
9. Nangkula Utaberta, Definition and Meaning of Aesthetic in Islamic Architecture-*Arti dan Makna Keindahan dalam Arsitektur Islam* (Writer), KALAM Publication, July 2003.
10. Nangkula Utaberta, The Importance of Cemetery in Islamic Architecture-*Peranan Penting Pemakaman dalam Arsitektur Islam* (Writer), KALAM Publication, July 2003.

9.2 Chapter in Book

1. Nangkula Utaberta , 2012, Issues and the Importance of Documenting Modern Islamic Architecture Thought in Nusantara, 2nd Edition, Chapter 1, Contemporary Architecture of Islamic Societies between Globalization and Tradition, Penerbit UIN Malang, Indonesia (in progress).
2. Badiossadat Hassanpour, Nangkula Utaberta, 2012, Investigation on Effects of common Universal Methods of Architecture Education on Architecture Students in Islamic Societies (New approach to sustainable Architecture education), Contemporary Architecture of Islamic Societies between Globalization and Traditions, Universitas Islam Negeri Malang, Indonesia (in progress)
3. Hafsah Othman, Nangkula Utaberta Uthman El-Muhammady, 2012, Documentation, Analysis and the Use of Hadis: A Valuation on Architectural Design of Modern Mosque in Malaysia, 2nd Edition, Chapter 1, Contemporary Architecture of Islamic Societies between Globalization and Tradition, Penerbit UIN Malang, Indonesia (in progress).
4. Nangkula Utaberta, 2012, Rumah yang Berkembang: Sebuah Pengajaran dari Fleksibilitas Rumah Tradisional Melayu in Buku Purnabakti Universitas Udayana, Cetakan Pertama, Architecture Department, Universitas Udayana.
5. Nangkula Utaberta, Nurakmal Goh, Nurhananie Spalie, 2011, Evaluating the Spatial Use and Design Development of a "Modern" Community Centre in Malaysia, International Sustainable and Urban regeneration: Case Studies and Lesson Learned 2010, Jilid 1, BAB 2, 9789881819611, Hongkong University of Technology, Hongkong
6. Nik Lukman Nik Ibrahim, Nangkula Utaberta, 2011, Buku Pengajaran Berkesan, Sistem Pembelajaran Studio Rekabentuk-FKAB-Editor: PM. Dr. Ir. Siti Rozaimah, Penerbit UKM
7. Nangkula Utaberta , 2011 , Perkembangan Idea dan Pembentukan Kerangka Nilai Dari Seni Bina Moden Di Eropah Pada Awal Abad Ke-20 in Ke arah Seni Bina Baharu: Sebuah Terjemahan

- daripada Vers Une Architecture, Le Corbusier , Isu, Keadaan Sosial-Masyarakat, Cetakan Pertama , Pendahuluan I-XXVIII , 9834399559 , Jabatan Seni Bina, FKAB, UKM , Bangi, Malaysia
8. Nangkula Utaberta, 2010, *Arsitektur Islam dan Arsitektur Masjid di Nusantara: Masalah Dokumentasi, Isu dan Kerangka Perancangan in Masjid Sebagai Pusat Pengembangan Masyarakat Intregasi Konsep habluminallah, habluminannas, dan habluminal'alam*, Pendahuluan p. 1-47, 979-24-3069-5, Penerbit UIN Malang Press, Malang Indonesia, Salinan Keras (Kertas)
 9. Nangkula Utaberta, Adi Irfan, Mastor Surat , 2010 , *Mercu Kesarjanaan Pengajaran dan Pembelajaran, Penyelidikan Tindakan di Institusi Pengajian Tinggi , Pendidikan Seni Bina di Malaysia: Satu Perspektif daripada Seni Bina Organik Frank Lloyd Wright , Cetakan Pertama , Cetakan pertama , 5: 76-92 , 9789679429640 , Penerbit UKM , Bangi, Malaysia , Salinan Keras (Kertas)*
 10. Adi Irfan Che Ani, Mohd.Zukhairi Osman, Nur Akmal Goh Abdullah, Mazlan Mohd. Tahir, Nangkula Utaberta, Mastor Surat , 2010 , *Penilaian Prestasi pendidikan di Institusi Pengajian Tinggi , Pendekatan Penilaian Teori Pembelajaran Berasaskan Studio , Cetakan pertama , Cetakan Pertama , 11:136-156 , 9789679429633 , Penerbit UKM , Bangi, Malaysia , Salinan Keras (Kertas)*
 11. Nangkula Utaberta (Editor: Indrawati), *Islamic House-From Concept to Design-Rumah Islami: Dari Konsep sampai Desain* (Contributor), Jurusan Arsitektur, Fakultas Teknik, Universitas Muhammadiyah Surakarta, February 2005.

10 . Journal, Academic Paper Article in Popular Publication

1. Antarabangsa, Nangkula Utaberta, Badiossadat Hassanpour, 2011, *Investigation in Effective Assesment Model in Architecture Design Studio*, Australian Journal of Basic and Applied Science, ISI and Scopus, 1991-8178, Laman Sesawang, <http://www.insipub.com/ajbas.html>
2. Antarabangsa, M.Z. Abd-Razak, N. Utaberta, NAG Abdullah, N. Spalie, AI. Che Ani , 2011, Scopus, *Sustainable Campus Design in Malaysia: An Evaluation of Student?s Perception on Four Research University Campuses*, Applied Mechanics and Materials Journal , Vol 71-78, p4313-4316 , Scopus, Laman Sesawang , <http://www.scientific.net/AMM.71-78.4313>.
3. Antarabangsa, N. Utaberta, B. Hassanpour, NAG Abdullah, N. Spalie, AI. Che Ani , 2011, Scopus, *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) , Applied Mechanics and Materials Journal , Volume 71-78, p.5003-5006 , Laman Sesawang, Scopus, <http://www.scientific.net/AMM.71-78.5003>.*
4. Antarabangsa, N. Utaberta, N.Spalie, NAG Abdullah, M.Tahir , AI. Che Ani , 2011, Scopus, *Sustainable Approach in Library Design in Malaysia: Lesson from Frank Lloyd Wright Approaches in Space and Landscape Design*, Applied Mechanics and Materials Journals , Volume 71-78, p.5007-5010 , Laman Sesawang, Scopus, <http://www.scientific.net/AMM.71-78.5007>.
5. Antarabangsa, N.Spalie, N. Utaberta, NAG Abdullah, M.Tahir, AI. Che Ani , 2011, Scopus, *Redefining Sustainable Outdoor Learning Environment in Malaysia from the Understanding of Natural School Design and Approaches in Indonesia*, Applied Mechanics and Materials Journal , Volume 71-78, p.4999-5002 , Scopus, Laman Sesawang , <http://www.scientific.net/AMM.71-78.4999>.
6. Antarabangsa, Muhammad Afiq Jamel, Nangkula Utaberta, 2011, Scopus, *House Renovations and Extensions in Malaysia: An Investigation of Mechanical Changes and Modification of House in Klang Valey, Malaysia*, Advanced Materials Research Journal , Vol 291-294,p.1547-1550, Scopus, Laman Sesawang , <http://www.scientific.net/AMR.291-294.1547>.
7. Antarabangsa, Azmal Bin Sabil, Nangkula Utaberta, 2011, Scopus, *Documentation and Analysis of Sustainable Design and Application of Tanggam System in Malay Tradistional House*, Advanced Materials Research Journal , Vol 291-294,p.984-987, Scopus, Laman Sesawang , <http://www.scientific.net/AMR.291-294.984>.
8. Antarabangsa, S. Johar, A.G. Ahmad, A.I. Che-Ani, N.M. Tawil, N. Utaberta, 2011, *Penyiasatan Kerosakan Terhadap Bangunan Kayu Lama: Kajian Kes Masjid Lama Mulong, Kelantan , The Malaysian Surveyor , 46(1):20-24 , Laman Sesawang , <http://ism.org.my/ContentPages/Journal.aspx>.*

9. Antara bangsa, Badiossadat Hassanpour, Nangkula Utberta, Azami Zaharim, 2010, ISI, Redefining Critique Session as an Assessment Tool In Architecture Design Studio Class (A case Study of 2nd Year Design Studio in Architecture Department of Universiti Kebangsaan Malaysia), WSEAS TRANSACTIONS on ADVANCES in ENGINEERING EDUCATION , 9(7):287-298 , Laman Sesawang, <http://www.worldses.org/journals/education/education-2010.htm>.
10. Antarabangsa, N.Spalie, N. Utberta, NAG Abdullah, MM.Tahir, AI. Che Ani, 2011, Scopus, Reconstructing Sustainable Outdoor Learning Environment in Malaysia from the Understanding of Natural School Design and Approaches in Indonesia, Procedia Social and Behavioral Sciences 15 (2011) 3310-3315 , 15 (2011), 3310-3315, Laman Sesawang, <http://www.sciencedirect.com/science>
11. Antarabangsa, Badiossadat Hassanpour, Nangkula Utberta, N. Abdullah, N.Spalie, MM.Tahir, 2011, Scopus, Authentic Assessments or Standardized Assessment New Attitude to Architecture Assessment, Procedia Social and Behavioral Sciences 15 (2011) 3550-3595 , No 15 (2011), 3550-3595 , Laman Sesawang , <http://www.sciencedirect.com/science>
12. Antarabangsa, N. Utberta, N.Spalie, MM.Tahir, NAG.Abdullah, 2011, Scopus, Redefining library learning Facilities in Malaysia: Lesson from Frank Lloyd Wright sustainable approach in spatial and landscape design, Procedia Social and Behavioral Sciences 15 (2011) 3328-3333 , No 15 (2011), 3328-3333 , Laman Sesawang , <http://www.sciencedirect.com/science>
13. Nangkula Utberta, Nurhananie Spalie, Nurakmal Goh Abdullah, Journal of Advanced material Research, Scopus, EI Compendex-Thomas ISTP, Design Flexibility of Growing & Transformable House in Malaysia, 2010. (ISSN: 1662-8985)
- 10.1 Referee Journal
 1. Mohd Tajuddin Mohd Rasdi, Nangkula Utberta, Journal of Islamic Architecture, Vol 1, Issue 1, June 2010, Universitas Islam Negeri Malang, Indonesia, The Design of Mosque as Community Development Centre from the Perspective of Sunna and Wright's Organic Architecture, 2010.(ISSN 2086-2636)
 2. Mastor Surat, Nangkula Utberta, International Journal of Islamic Architecture, Vol 1, Issue 1, June 2010, Universitas Islam Negeri Malang, Indonesia, Memantapkan Pensejarahan Masjid Tua Masjid Kampung Laut Melalui Analisis Perbandingan dengan Masjid Demak, 2010. .(ISSN 2086-2636)
 3. Dr. Nangkula Utberta, Hafsah Othman, International Journal of Islamic Architecture, Vol 1, Issue 3, June 2010, Universitas Islam Negeri Malang, Indonesia, Analisis Hadith dalam Rekabentuk Masjid Modern di Malaysia, 2010. (ISSN 2086-2636)
 4. N. Utberta, H. Othman, Mastor Surat Journal of Building Performance, Vol 1, 2010, Dokumentasi, Analisis Dan Penggunaan Hadith: Satu Penilaian Keatas Rekabentuk Masjid Moden Di Malaysia, JBP-03-05. (ISSN 2180-2106)
 5. Nangkula Utberta, Mastor Surat, Journal Design + Built, Volume 3, 2010, Deskripsi Tipologi Dan Pendekatan Rekabentuk Masjid Dalam Dunia Tradisional Dan Moden di Indonesia. (ISSN 1985-6881)
 6. Mohd Tajuddin Mohd Rasdi, Nangkula Utberta, Journal of Islamic Architecture, Vol 1, Issue 1, June 2010, Universitas Islam Negeri Malang, Indonesia, The Design of Mosque as Community Development Centre from the Perspective of Sunna and Wright's Organic Architecture, 2010. (ISSN 2086-2636)
 7. Mastor Surat, Nangkula Utberta, International Journal of Islamic Architecture, Vol 1, Issue 1, June 2010, Universitas Islam Negeri Malang, Indonesia, Memantapkan Pensejarahan Masjid Tua Masjid Kampung Laut Melalui Analisis Perbandingan dengan Masjid Demak, 2010. (ISSN 2086-2636)
 8. Dr. Nangkula Utberta, Hafsah Othman, International Journal of Islamic Architecture, Vol 1, Issue 3, June 2010, Universitas Islam Negeri Malang, Indonesia, Analisis Hadith dalam Rekabentuk Masjid Modern di Malaysia, 2010. (ISSN 2086-2636)
 9. N. Utberta, H. Othman, Mastor Surat Journal of Building Performance, Vol 1, 2010, Dokumentasi, Analisis Dan Penggunaan Hadith: Satu Penilaian Keatas Rekabentuk Masjid Moden Di Malaysia, JBP-03-05. (ISSN 2180-2106)
 10. Mohammad Tajuddin Mohd Rasdi, Nangkula Utberta, The Design of Mosques as Community Development Centers from the Perspective of the Sunna and Wright's Organic Architecture, Journal of Islamic Architecture, Universitas Islam Negeri Malang, Indonesia (June 2010). (ISSN 2086-2636.)
 11. Nangkula Utberta, Kamarul Afizi Kosman, Azimin Samsul Tazilan, Special Character of Traditional Mosque in Indonesia, Perwatakan Seni Bina Masjid Tradisional Indonesia, International Journal SARI, UKM (2010)

12. H. Arjmandi, M.M.Tahir, I.M.S.Usman, N. Utaberta, R. Sharif, , 2010, Application Of Transparency To Increase Day Lighting Level Of Interior Spaces In The Dwelling Apartments In Tehran ?A Lesson From Iranian Traditional. , Journal Design+BUilt , Volume 3, Jilid 3, p41-55 , Salinan Keras (Kertas)
13. M. Tajuddin M. Rasdi, N. Utaberta, , 2010, The Political Ideas Of Islam And Their Influence On Mosque Architecture In Malaysia, Journal Design+Built , 3(3):167-172 , Salinan Keras (Kertas)
14. Dr. Ir. Nangkula Utaberta, Kamarul Afizi Kosman, 2009, Jurnal Kesturi.net - Akademi Sains Islam Malaysia (ASASI), Rumah yang Berkembang: Pengajaran daripada Keanjalan Matematik pada Rumah Tradisional Melayu, Julai:1-11
15. Nangkula Utaberta, Muhammad farihan Irfan Mohd Nor, Mazlan Mohd Tahir, Mastor Surat, Ishak NH, 2009, Jurnal Design+Built: Jurnal Rekabentuk dan Binaan(Volume 2), Kajian Tentang Idea dan Falsafah Seni Bina Organik Frank Lloyd Wright, Cetakan Dis 09, ms 87-102 (ISSN 1985-6881)
16. Muhammad Khairul Azhar Mat Sulaiman, S. Maulan, S. Abu-bakar, M. Jamil, Nangkula Utaberta, R. Shariff, 2009, Jurnal Design+Built: Jurnal Rekabentuk dan Binaan(Volume 2), Aplikasi GIS di dalam Pemilihan Lokasi `Vertical Park`: Kajian Kes di Kuala Lumpur, Cetakan Dis 09, ms 73-86 (ISSN 1985-6881)
17. Nangkula Utaberta, Muhammad Farihan Irfan Mohd Nor, Mazlan Mohd Tahir, Mastor Surat, Ishak NH, Studies on Organic Architecture of Frank Lloyd Wright-*Kajian Tentang Idea dan Falsafah Seni Bina Organik Frank Lloyd Wright*, Jurnal Design+Built: Jurnal Rekabentuk dan Binaan, December 2009
18. Muhammad Khairul Azhar Mat Sulaiman, S. Maulan, S. Abu-bakar, M. Jamil, Nangkula Utaberta, R. Shariff, GIS Application on the choosing of Site of Vertical Park: Case Study at Kuala Lumpur-Aplikasi GIS di dalam Pemilihan Lokasi `Vertical Park`: Kajian Kes di Kuala Lumpur, Jurnal Design+Built: Jurnal Rekabentuk dan Binaan, December 2009.
19. Nangkula Utaberta, Problem and Approaches on Islamic Architecture (Permasalahan dan Pendekatan Studi tentang Arsitektur Islam), Jurnal Ilmiah Desain & Konstruksi, Universitas Gunadarma, 2009
20. Mohammad Tajuddin Mohd Rasdi, Nangkula Utaberta, Mosque Architecture in Malaysia: Clasification of Styles and Possible Influence, Journal of Southeast Architecture, National University of Singapore (June 2007).
21. Nangkula Utaberta, Traditional Mosque of Indonesia: Study on History, Theory and Phisical Form-*Seni Bina Masjid Tradisional Indonesia: Kajian Terhadap Sejarah, Teori dan Morfologi Fizikal*, Jurnal Alam Bina, Fakulti Alam Bina, UTM (June 2007). (ISSN 1511-1369)
22. Nangkula Utaberta, The chosen of Architectural Language for Islamic City: Case Study of the Political Agenda on the City of Baghdad, Iraq, Jurnal Arsitektura, Architecture Department, Faculty of Engineering, Universitas Nasional Surakarta, Indonesia (April 2007) (ISSN 1693-3680)
23. Nangkula Utaberta, Organic Architecture of Frank Lloyd Wright (Ide Arsitektur Organik Frank Lloyd Wright), Jurnal TEKNIKA, Fakultas Teknik Sipil dan Perencanaan, Universitas Islam Indonesia, 2006.
24. Nangkula Utaberta, Morality in Modern Architecture (Nilai-Nilai Moral dalam Seni Bina Moden), Jurnal Alam Bina, Architecture Department Universiti Teknologi Malaysia, July 2005.
25. Nangkula Utaberta, Value Based Exploration of Islamic Architecture (Pencarian Bentuk Arsitektur Islam yang berbasiskan Nilai), Paksi Journal: An Official Journal of Indonesian student association in Malaysia (December 2005).
26. Nangkula Utaberta, Problems in Islamic Thought (Studi terhadap Masalah yang ada Dalam Pemikiran Islam), Architecture Journal: Sinektika, July 2002.
27. Rosdan Abdul Manan, Nangkula Utaberta, Concept of Islamic City Planning from the Sunna' (Konsep Perkotaan yang Islami dari Perspektif Sunnah), Architecture Journal: Sinektika, July 2002.

Nama: AR. MASTOR SURAT

Fakulti/Jabatan/Pusat Pengajian: FKAB/ jabatan Seni Bina/ Universiti Kebangsaan Malaysia

No. Telefon: 03-89216299/ HP: 0196902038

e-mel: mastorsurat@yahoo.com

II. PENDIDIKAN

Tahap Pengajian	Tahun
• Master in Literature, Institut Alam dan Tamadun Melayu, UKM	2008
• Bachelor of Architecture(Part II), Universiti teknologi Malaysia	1988
• Diploma in Architecture (Part I), Universiti teknologi Malaysia.	1982

III. PENYELIDIKAN (2000-KINI)

Tajuk Penyelidikan	Tahun
1. Memantapkan Pensejarahan Masjid Kampung Laut Darisegi Sejarah, Rekabentuk dan Tradisi Binaan., Geran Universiti Penyelidikan (GUP), UKM, Penyelidik Bersama	2004
2. Membangunkan Senibina Tegal Bancana Berdasarkan Idea Senibina Warisan Melayu, FRGS, Ketua Projek	2007
3. Innovative Raised Floor For Terrace House in Malaysia, FRGS, penyelidik Bersama	2006
4. Institut Penyelidikan Tenaga Suria UKM (SERI) & Kementerian Kebudayaan, Kesenian dan Warisan (KEKWA) – 2007: Pembangunan Semula dan Kajian Menyeluruh ke atas Istana Tengku Sri Akar, Ketua Projek	2007
5. Institut Penyelidikan Tenaga Suria UKM (SERI) & Kementerian Kebudayaan, Kesenian dan Warisan (KEKWA) – 2007: Pembangunan Semula dan Kajian Menyeluruh ke atas Rumah Tengku Bongsu di Taman Teknologi Warisan Alam Melayu, UKM, Ketua Projek	2008
6. Kearah Senibina Mesra Alam Dengan Melihat Kepada Faedah Kepada Pembangunan Sosio-Budaya dan Ekonomi Masyarakat, OUP, UKM, Penyelidik Bersama	2009
7. A Study on the Approach of Optimizing Thermal Comfort in Terrace Housing Through the Application of Alternative Design & Materials As Its Variable Indoor Wall Components, FRGS, Penyelidik Bersama	2010
8. Penyelidikan Rekabentuk Kampus Lestari, OUP, UKM, Penyelidik Bersama	2010

PENERBITAN DAN PENULISAN KERTAS (10 TERBAIK)

1. Mazlan Mohd Tahir, **Mastor Surat**, NurAkmal Goh Abdullah, Zabidi Hamzah, Muhammad Fauzi Mohd Zain, Kamaruzzaman Sopian, Ismar MS Usman ***Terrace Housing Design of the Future – An Introduction of the Raised Floor Innovation***, 2007, *Academic Journal of PAM Education and Resource Centre*. m.s. 23 - 41
 2. Che-Ani A.I., Zaharim A., M.F.M. Zain, Mohd-Tawil N., **Surat M.**, 2009, Non-ISI, **Timber Defects In Building: A Study of Telapak Naning, Malacca, Malaysia**, WSEAS Transactions on Environment and Development, 5(1):109-118, Bahasa Inggeris, Salinan Keras & Lembut, Issue 1, Volume 5, January 2009, ISSN: 1790-5079 <http://www.worldses.org/journals/environment/envir>.
 3. **M. Surat**, Usman I.M.S, Tahir M.M, Abdul Halim Ismail, N.L. Nik Ibrahim, 2009, **Pendekatan Dasar Pemikiran Seni Bina Warisan Melayu Bagi Mendapatkan Keselesaan Hawa Serta Penyelesaian Masalah Iklim Dan Persekitaran Dalam Seni Bina Masa Kini**, *Design + Built Journal : Jurnal Rekabentuk dan Binaan*
 4. Nangkula Utaberta, Muhammad farihan Irfan Mohd Nor, Mazlan Mohd Tahir, **Mastor Surat**, Ishak NH, 2009, **Kajian Tentang Idea dan Falsafah Seni Bina Organik Frank Lloyd Wright** *Jurnal Design+Built: Jurnal Rekabentuk dan Binaan*
 5. Che-Ani A.I, Chohan A.H, A. Sairi, M.F.M. Zain, **M. Surat**, A.E. Hashim, 2009, **Prospects to Develop Information Technology Based Virtual Monitoring System to Arbitrate the Housing Quality** *European Journal of Scientific Research*
 6. M.M. Tahir, N.A.G. Abdullah, I.M.S. Usman, A.I. Che-Ani, M.F.I. Mohd Nor, **M. Surat**, 2009, **Constructing Place and Space in the Design of Learning Environments for PBL in Malaysian Universities** *Asean Journal of Teaching and Learning in Higher Education*
 7. **Mastor Surat**, Mohamad Tajuddin Mohamad Rasdi & Rosdhan Abdul Manan, 2007, **'KRISIS PROFESYEN SENIBINA – Profesionalisme, Etika & Halatuju'**. Serendah, Saahifah Global Resources
 8. **Mastor Surat**, Nik Hassan Shuhaimi Nik Abdul Rahman & Kamarudin Ab. Razak, 2008, **RUMAH LIMAS JOHOR - SENIBINA DAN PENSEJARAHAN**, Johor Bahru, Yayasan Warisan Johor, ISBN 978-983-2440-37-6
 9. **Mastor Surat**, Nurakmal Goh Abdullah, Zuhairuse Md. Darus, Mazlan Mohd Tahir, Ismar MS Usman, M.Farihan Irfan M. Noor, Noraziah Muhammad & Zabidi Hamzah, **FOLIO RUMAH LIMAS JOHOR** Dlm. Mastor Surat, Nik Hassan Shuhaimi Nik Abdul Rahman & Kamarudin Ab. Razak, 2008, **RUMAH LIMAS JOHOR - SENIBINA DAN PENSEJARAHAN**, Johor Bahru, Yayasan Warisan Johor, ISBN 978-983-2440-37-6
 10. **Mastor Surat**, 2008, **Wacana dan Teori Rekabentuk Masjid**, Dlm. Nik Hassan Shuhaimi Nik Abdul Rahman, 2008, **Kebudayaan, Kesenian & Peradaban Alam Melayu**, Bangi, Institut Alam dan Tamadun Melayu, Universiti Kebangsaan Malaysia, ISBN 978-983-41418-9-9, ms 172-194
-

APPENDIX G

TRANSCRIPTION OF INSTRUCTORS INTERVIEWS

Prof. Tajudding:

I have not written much about desk crit but I have written something about in order way that crit in the evaluation crit and I think we have major problems with this evaluation crit now that you have mentioned it.

Perhaps we also might have the similar problem with the desk crit. It respects to culture, I have not depend my understanding Chinese, Malay, etc. but I think all of them precisely have some problems with the manner of the crit session. Of course if we look at roughly we can see some called. A student better in desk crit some average student and when we look at way they do their work in the studio we can say this an A student and this is a C student. So the C student in one sense would not very well because they had less crits because they produce less (skinatic/seimatic/scenematic)?!?. This one my experience tells me.

I was tell the students that if you want to get A you have to attend 10 crits something like that you want to get B then you can just go for go with 5 or something like that. So you choose your own grade and more less from that I have been teaching studio, it goes the some way I don't see that there is a super student, very clever and very dynamic getting A. I have also average student that gets also A's and trick is to have a constant crit sessions and no to just get up with lazy drawings. Most(B-) student would do in that regard I would say that I can not support any cultural differences yet. But it means it is just that these who work harder they may get better grade but of course that is subjected to the evaluation of way of some lecturers, evaluate of course differently. Sometimes one lecturer would say it is comparative and I would compare this student to another student but I don't grade that way. I grade if he was my student and he was the person that I know. Then I tell he is quite and he was able to do this and so he deserves to get this grade.

Another student is very good student but does any a little bit much. So this is a factor in grading. But of course when you are grading other students which you do not know you would tend to do the comparison between students.

Now come to the crit session, the problem was the desk crit generally. I was told the student you have 6 weeks for them. They would always try to get good ideas on 4th week which is wrong. I keep telling them I have a method the first 2 weeks is critical for you to have sketch and schematics and do as much mistake.

As possible because they only way to get good result is as and the only way to make mistake is to do the design. But students feel that the less they do, the less mistake. They mean/may have...and that is not correct in our business. It is like making a song. You have to try and try and try and make all the mistakes and get them until you get the best. They try to get good ideas in the 4th week which is very close to the submission and I said no! You can not crit ideas any more. You have to have the developmental part whatever you have prepared. You must develop and then you must finish because our of point is not about the ideas.

Generally it is about the competence of submission. So what you have super idea, average idea or may be so good in idea you still have to finish. To get the passing

mark. So that is generally may be a perhaps the lecturer is that for because they do not communicate they wanted.

I am trying to write to survive crit and to give points about How to approach the design in the studio and How to present your oral presentation strategize it and how to formulate the board , so that you can say what are the issues , what are the solutions and your design.

I say it is very easy , all we have to do is explaining clearly the issues that you are dealing with(2 or 3 issues).and you have another board that explain How you answered the issues. That's all. But most formatted presentation by students does not have this. They just have drawing and then whatever they can write up and so even if you have good design but then there is failure to communicate that again cannot force the student on that because I think lecturer themselves have not communicated what they expect and unless in my studio. I've been shown that this is the manner in which I will accept the presentation. You must have the background of the object, which is normal but then you must have issues tackle , in the housing project or school project you cannot solving every single problem , you must choose where there is boiling.

In schools, where there it is children safety, car accident, kidnapping or another problem, make sure you explained the problems very clearly on the boards and you must have at the end of the board How you have solve those issues you have come about. And do your oral presentation very easy because then you can be guided by your board but the problem of student is that if you have 6 weeks of design. They will take all 5 weeks but they should leave 2 (about 1/3) weeks of allocated time for presentation. Usually students leave $\frac{1}{4}$ or $\frac{1}{5}$ of period to do presentation and that is not enough time to develop a good presentation board, because you have to edit most student do not get edited in terms of presentation board.

In my studio I insist you must stop at the 4th week and leave two more weeks for presentation boards and they you can only secure A.

But some students do not want to show the presentation and on that time I will say them so I can not promise the A and generally they do not get it. So students must leave certain amount of time to have the crit on presentation boards. Presentation board in the middle of the process you must already sketch. The story board (how many sketches and what kind of drawing). So I find that by using this method most of my students were they are average are able to explain and they are able to get good marks from external jury who comes.

Most of the younger lecturers now believe that A is for god. Lecturers are not trend and training in education they just think they know how to teach. I never used same method twice based on OMR student evaluation form which the university uses to get the lecturers performance (they are good or bad). I can upgrade my way. I usually do not get the highest score I believe teaching also should be in creative mode. So I use a model and if students are satisfy so I will use the positive traits for the next year or student. I have certain agenda I believe giving high marks from students OMR doesn't show the successfulness of the used method. To me the purpose of evaluation crit supposed to be first to get students to experience idea of presentation second, Try to present the design in the sense that an argue, which the design is good.

So it is lots of things expected and Bryan Lawson very good says that you cannot have all this in a one? Single session you must split it. If you want to teach them how to speak and argue then don't grade on the design. So they don't have feel that based on the argue they may get better or worst marks.

I also try to get the students to present other students work and then present to the students themselves, before that I would already explain what is oral presentation certain strategies and also how to make comments, how to response the comments and how to answer in a polite and clear manner. Then I would always put the senior students like 3rd year to 2nd year students to the studio then I leave them alone for few minutes. It will be very good because students will learn to answer the comments without any worries about grades. It is an exercise for students to think that if someone asked a question on certain part of their design it doesn't mean that their design is bad or they chose wrong way, it just means you need to explain more and clarify your intentions. I call this model teaching tool. I just turn my performance to a chairperson and just I ask them when there is a misunderstood or out of content or they need to come back to the scope.

Sometimes students in crit sessions they ask I have 4 questions, in this moment I say no, no. Only two (just kidding) I believe in this way psychologically big impact will occur, and some lecturers may want to attack students. Some young or older lecturers believe that they know what should they do and what they are doing, but I believe this is destructive teaching method. Most of the used models are more destructive than being beneficial. The fault by lecturers is that they don't literate what they do and what they experienced and also read in this context. They just lie on their experience from their student life and what their teachers did at the studio.

In the past the grades to students were like live or die, but in semester system, I think we suppose to have a course grade and then let a portion to the end we get segmental grades for first and second project and etc and each has its own percentage and in portfolio form they will be graded.

About the grades, philosophically we have to know what is A, B etc. A is for superlative and it is a symbol of excellence. As I mentioned before some believe that A is good and it should be unreachable thing. But like other art studies (music etc choosing great is personal. Of course when I pursuing a certain issue for example children safety in design, and then jury shoot them from what they think, so you cannot control grades, it is a human factor. For the final grades I do justify the grades and give them a verbal report contain that you get C, because of this or that and etc. in UTM department believes that grades are secret, it means that each semester have 4 projects and a final project at the end of year and each have their own marks but students just should know the total and final mark of whole year.

I believe the grades should be reviewed. I always show the grades to my students and we talk about it, this is the reason why my panel students are happy but other lecturer's students sometimes talk about unfairness of grades. I sit with students specially those who are failed. I don't write but I talk. Because most of the students who get fail are those who didn't work that much, based on my experience getting fail because of being weak in designing is a rare condition, so those students need to get the advice may be they will get awake for their future.

About the defensive reaction in crit sessions, especially on negative comments, I have never seen a defensive reaction. This is the Malaysian culture they are not like this. But we expect them to do the reaction, re explain their idea. Our students Because of the education system in early years, students from primary schools didn't encourage attending in discussions and not trained to speak and give comments. We suppose to encourage average to responding to certain questions.

After getting older and learning things and developing personality, it is good to star with positive comments, but what I see, is 99 percent of lecturers, juries start with

negative comments. They start straight away. When I was younger I did same, but from ten years ago I started this change. I tried to be more constructive. For example I would say your building as a restaurant or anything works but when I look to your decisions I find some difficulties. But I find many who jump to negative comments.

Our fault is that we do not go through the education system. We do not require the psychological things we just go to teaching system, this is very destructive. We have a course in teaching and every lecturer should go but nobody specializes and in architecture or crit session. I have spoke about it many times, but still I didn't have time to write a book in this, but you can be the first one who is talking about this.

Bryan Lawson is very good in this way; he also says that about the presentation students just learn in first year, and it is not enough. They need more practice.

If a student comes to me with a design which I think this is not going to anywhere, I would obviously sketch to show, it is not good to do in fifth or six year but in first years it is necessary.

Crit session suppose to be the session you present your design, receive the comments and use it, but Malaysian students are like American or British students who use the comments and use it in their own way, Malaysian students just follow. But they need to use be creative but they just imitate. We need art teachers, but who care about art. No one has really studied to be an architecture lecturer. Just practicing architecture is enough to be a lecturer. I think this should change. We need some people to work on curriculum, crit sessions, and assessment in detail. we have long way to go in this subject.

Dr. Nangkula Utaberta:

The architecture education is a very unique course, it sits in the middle of creative courses like engineering etc, and somehow we need to fulfill the requirement of the exact things at the same time we ask students to be creative. That is the difficult part. So when we talk about something sitting in the middles between creative and very exact thing like building services, building surveying etc, we must come with a not normal assessment. That is why in architecture education normally what people did when talk about assessment; we cannot go with very formative, very normal things like test, Quizzes. So normally in architecture education what we do is called critique session, which is type of presentation. At one side the crit session function as a method to develop students' creativity, so we try to guide students but at the same time what happen we also try to make an assessment in this way. And assessment means to come up with grades and this is the different thing.

What normally happens, which is important to this research is that, when we combine the things and we ask students present lots of things in one time. Last time Professor Bryan Lawson said in UTM, lecturers in each presentation time asking students at least eleven things including that students must be able to talk something technical, they must be very brilliant in generating ideas, they must be very good in oral presentation, sit analysis, etc.

So you ask too many things in one time, so it is very difficult to fulfill all the things. So rarely we can find students who are good in everything. Some students are good in generating idea or design but not good in documenting things or oral presentations or other things. It means that we cannot expect people to be good in everything. The idea of inviting people as panel to a jury session is presenting the idea of being fair to everybody or getting new ideas.

But we should be aware of different position and time of getting new ideas and assessment. So when the grade is involved the crit session would be more complicated and complex and in wrong way the victims would be the students. This idea then will come to mind to separate the assessment from education or not. It could be considered as an idea or suggestions.

Goal of desk crit or juries:

Definitely the goals of desk crit as most common session is the time for personal discussion and monitoring students progress but the idea of final presentation is to have very nice presentation of completed design it is like a training for them as an architect. They need this ability and experience in their latter architectural life, to present in front of clients, authorities, government etc.

Assessment is the most critical part, because most of the time the base of assessment is just the product and not the process students have passed. This is the issue. Some lucky students who have good skills in graphic presentation or oral presentation will get better marks. All the effort and intention in assessment is to evaluate students in fair manner. And all of us are aware of this truth which is Normally 50 or 60 percent is not on the idea of the design is going to presentation.

We want give the chance to students to get better marks related to their skills, so we need to distribute the activities and importance of them. Also it is necessary to distribute the learning time with assessment time.

Standard is another main concern in architecture education. Engineers care a lot on having standards, especially in assessment, but here in architecture education we don't have any standard.

American idol for example, some people can be good singer and people vote them, the standards are not clear all the people can send SMS and vote for a people. The thing that we are dealing with here is how to achieve the standards? It is good to be creative in design but there would be standards for evaluation. So in normal assessment normal standard like bloom taxonomy can be used, but how about architecture that has a creative product? At the same time we cannot let the things to be very loose or subjective. And just because of I like it or I don't give more credit or grade to a project or design. It is needed to keep the balance between having a standard and letting creativity to enter to assessment. That is the idea.

The difficult part in UKM is that we need to have a standard for grading. I was dean in Universiti Legenda(5 years), and this made me a chance to be introduced to many franchised program and different types of standards, Curtin University, Nottingham university, University East London, etc, and I got the opportunity of going through different forms of assessments. UKM has its own standards, here engineering have their own standards which is rigid and in one side it is very good because it prepares a very good picture of grading but in architecture, for example if you go to University East London, in the first year architecture students doesn't have any A,B,C or what else, they pass or fail, or Sheffield university is same also and in second year they use also simple systems, but as far as we are part of engineering faculties, we need to follow this places' model and standard for grading.

In term of grade we must fulfill the standard but in term of how we assess the grade, it is different story. How we assess the grade, it depends on us.

Since the assessment criteria if students be able to answer the questions in exam sheet even they can get A without any presence in the class but studio is different. Frank

Lloyd Wright has a speech about education, and says enlightenment and how you develop the personality and integrity of the student is the most important thing so the main job of the lecturer or teacher is not to deliver the knowledge.

Dr. Nik Lukman Ibrahim:

Desk crit is a routine check on students' progress to see whether they are on the right track and guide them personally by talking about the requirements. I think this is the best time, because collective crit, students in front of peers might be less personal.

Because it is a studio session and we cannot just transfer the knowledge by lecture so the crit is unavoidable. This has a lot of advantages.

As a design lecturer what I expect to see in crit session is student's creativity, how they understand the problem and how they respond to the problem and issues in design and how they solve the design problem and also it is good to see in design on my exploration, it is not come from case studies, it is based on my experience, how they come up with their own way and approach to the design.

I think desk crit is a good vehicle for design studio and this is what students exactly need and I think they need it, even more than collective crit sessions because they can talk more freely and ask about minor things.

The reason of being effective of desk crit is because of being one to one basis and you can give each a proper guide.

The jury, I think a lecturer is also a jury, inviting other people from outside that can be from other university, or other lecturers from the faculty or familiar peoples to the project or university council, I think the function is to give second opinion may be and give a check, because you know each lecturer has his own intensity and certain issues might be escaped and I think the jury can help in this area.

Jury sessions and how it works is a tradition in architecture studios, so it should be continued, here also we invite others to home here, we give them a form, marking form, it is based on tutors objective and what they need to look for in the projects, we call it here external review. It is a jury based procedure.

Outside opinion is really familiar to the project; some people will come across, many proposals.

Ar. Mastor Surat:

Architecture education is same with other art classes or whatever dealing with the object or art. It means crating idea. And the outcome is very subjective and very difficult to evaluate. The most effective and come model is one to one crit session. One to one is a very effective approach, and I think I don't see any other approach in teaching architecture, and it is different from compare to theoretical classes that can teach students in large group. So I can they this is the only approach to learn architecture.

I think this is very important to manage to conduct the interim and final submissions. Normally students listen to their lecturers or supervisors, and some time the related instructor cannot deliver the whole message, so it could be better to have third idea especially from practical environment. Because they know what is the real problem once dealing with the construction. Yes, they understand about the site conditions and

of course they are very familiar about the local authorities, requirements, practitioner usually move on practical aspects rather than theory aspects, related lecturer can give them the theoretical knowledge and invited practitioner to help them to face to real problems and give advice on practicality.

What we are practicing in UKM architecture department, we have the taxonomy of assessing students work. In this department we have two categories of assessing one is internal assessor and external assessors. Internal assessor will give the marks and the position of external assessor is to check that the proper mark is giving to students by the internal assessor. Because externals are usually invited lecturers from other universities and practitioners and they are just to confirm the given marks.

But of course during the process of assess, they have certain ideas, how to go about the marking system or the taxonomy you are preparing, and they will give advice. During 4 or 5 years we are trying to find our ways. In different semester, we invite different people and we use different ideas and we use it in our guideline.

I think it is quite fair, and most of inventors are agree in the way we do grading.

As I mentioned we have taxonomy and here in this university we don't mark holistically and how they do assessment. Of course we have our niche for our department. Our niche is on producing national identity. So we divided into certain category, the difference is on target niche of different semesters and years. What they suppose to learn.

Here, just the 10 percent goes to presentation, and more to how they come up with ideas, sometimes students don't understand. They don't have any discussion and crit with the instructors and suddenly they come up with a design, we would not give mark on these types of designs.

Actually I think even with being subjective the assessment is fair to students. The instructor at first days of semester give the students the outlines, then students can be in the outlines of the studio, and the limitation of time and duration of study, wouldn't change the outlines even.

It is fair to assess students based on what we delivered to them, because there is limitation of time, I think we just allow to do this. Students cannot answer to the things that were not in the program.

Actually students as well as instructors should benefit from the studio. Some lecturers do not have experience of working in practical world, and they can learn from outsiders. I can say that learning is unlimited and very dynamic every day each people should learn new knowledge. It is something continuo and nonstop.

Actually the current practice of internal assessor is that they don't have enough time for students to come and explain and now a day's practice is that the related instructor can come and explain and in and out of assessment time. But for the lack of time collectively we call students to come and they will talk to them especially the highest and lowest marks. After the jury all the students will gather and invited examiners will get advices and from that students can learn better.

Also external examiners from other universities can share what they are doing and they have done to the related instructor and students.

Usually the comment given to students in oral way, but the examiners need to fill up the form and write their comments. And those comments would be analyzed to improve the departments program.

About the amount of using comment b students in further steps we did not done any research and we don't have evidence, but most of students especially part one student, they don't take serious on the comment they are very different from part two students, they are more eager and matured. I don't have data on that.

We only designed the scale of project for the whole teaching program and the scale of the project. Early of the semester we have some small project for one or two weeks, and this short projects will make them to wake up. Actually the other small projects before facing to the final we call them later in the process, but it is needed to be explained to students. giving them just one project and they cannot be good so it would be unfair, but for the lecturers this way would be more easy to monitor the process.

The final project mark has 40 to 60 percent of the whole course mark. Small projects need to have little percentage.

Assessment art work is not easy; the level of student to understand is also not easy. We have 3 different students some come from diploma, matriculation, higher learning STPM. Diploma holders are better. Some students are good in first years and fundamental things but in further levels they stopped. Not all students have the background of art so they need to learn fundamental thing, and second year students are the step we can assess them and see how they are working.

Going back to your question, assessment needed to be defined for each semester and year based of objectives of each year or project even. During the part one we provide students general knowledge and we do not know how they want pursue architecture. So giving enough knowledge to be a good designer is the target.

Ministry of higher education is good designed and it is better to follow their guideline. We are colonized to follow UK system but here we need to test our model. I don't know how we can teach our instructors to assess students project or how the instructors can get the experience in this but I think cross referencing, inviting from different universities can be helpful. Inviting professor from overseas can also be helpful. But I think in Malaysia we have our own problem and niche so we have to find the problem here and try to solve the problems here, other from other countries with globalization ideas cannot help to solve our problem, because even though we are multi culture, but we are same country and same culture, so the standard of living people is same so we have to work here, instead of following what others say.

At the end I want to add that university is quite different with schools here they should be more independent, we cannot give the detail information, may be students should be advised to be more hard worker, here is not the time to explain everything in detail. They should try to find things by themselves, here the instructors are available during the day, and they should try to come and find, ask things.

Dr. Adi Irfan Che Ani:

First desk crit is like a one to one session, having in mind that the purpose is to know about the progress of students according to the timeline and giving time to present the idea to students. Some students are good in design but they cannot talk and present, this would be the time to learn the presentation skills. I think there is two main reasons we need the desk crit which is learn to sell their ideas and design, they need to sell their product. Selling is the important point for architecture students.

One way communication is not good by two way discussion the lecturer can understand this is their own project or they just copy and paste.

Students also can get the idea from lecturer, and the fast response is one of the advantages of desk crits.

Depends on the students lecturer should chose among peer crit or one to one sessions, some students are shy and they learn better in individual forms , I do believe it depends to students and lecturer should prepare the time for all of the students to learn in their own way. I mean the minimum is having one to one individual form but depends to the request of students or perception of lecturer from the studio the group discussion and crit can be added to the studio.

Personally because of the time I prefer the group, but desk crit is inevitable. Students are our costumer so we need to fulfill them.

I start t with the design model in crit session, rather than just talking on paper, but sometimes they come without any evidence but I give positive sides to eager them to continue. The bottom line of design is needed for crit and I will draw my idea to get the correct direction, whether the material is rubbish or not I try to help.

Always we start with the problem and then finding the way to respond to this. We shouldn't get direction to students during the crit, we should just prepare them to find their own approach to the requirements and problems and make their own unique design.

Most of the comments go to technical issues and problem findings. Giving the idea to students should be after their statements and try.

Different lecturers look to different angel of design, so the group of lecturer can cover all the sides of design. It means different people different perspectives. Creativity and any extra well-done design will increase the marks.

During the process we have internal assessors and at the end we invite externals from other universities, for the internal juries students can learn but the external day they just come and look to the design and they verify the marks.

Psychologically when students know the assessors and there is no stranger in the studio the level of learning would increase and for this reason examiners are not going to criticizing.

Final submission sessions are for learning and grading both.

Juries just look the end product design and all the marking process will come from this. The average of given marks from different examiners would be put for students mark.

Somehow the way students' dresses, they talk or present can affect their mark but it is 10 to 20 percent of total mark. It is important to dedicate normal portion for it. But psychologically it may affect more.

Students should know what is going to be assessed. This makes the marking fairer. Even we define the niche of each project and objectives of the project to students and in this way we help them to experience different type of approaches in design, this is more fair and practical.

I think lecturers need to go take courses to how to deliver the knowledge, I think it should be compulsory for young lecturers, but it is quite far from architecture skills. Some sort of skills will come by experience during the time.

Ar. Nurakmal Goh Abdullah

Crit session is to identify the progress of students and make sure they are going trough right track. So it is very important for the studio. I believe even with the name of crit for crit session we donot criticize students' projects, we just guide them to have good

interpretation of design, problems and solutions. Guidance is what normally is happening, pushing them and giving the responsibility. This is the key word, which decrease the negative mean of crit sessions.

Crit session is a discussion session, students can be agree or disagree in an issue, more criticizing should take place in their own mind. We should analyze what they are doing and give them references, put some options in front. It is not good to give them exact direction and telling them what to do.

All students no matter how weak they are they need time to have proper example and find their own ways. Teacher should put himself in shoes of students and help them to make decision, and then do the evaluations.

One by one student crit sessions, is good but when you discuss in group they can use the comment of others and they may learn from others problems.

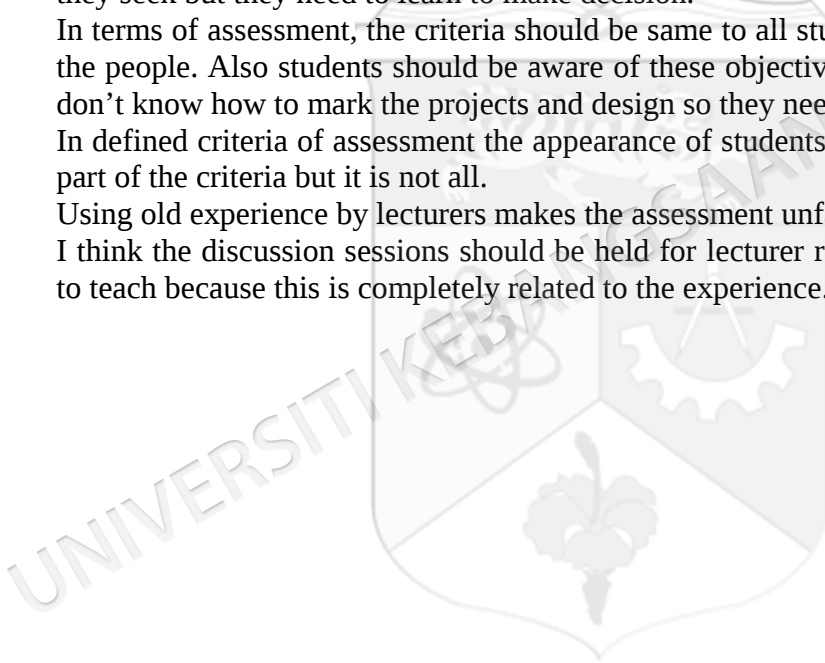
Positive comment should come first this gives them confident, this was the wrong thing I used at the early stages of my teaching experience but during the years I learnt to start the positive comment, but the negatives also should be discussed. I giving the idea to students by giving examples, I don't give those direct solutions. This is what they seek but they need to learn to make decision.

In terms of assessment, the criteria should be same to all students to make it fair to all the people. Also students should be aware of these objectives. Most of new lecturer's don't know how to mark the projects and design so they need to learn the way.

In defined criteria of assessment the appearance of students, the verbal presentation is part of the criteria but it is not all.

Using old experience by lecturers makes the assessment unfair.

I think the discussion sessions should be held for lecturer rather than courses to learn to teach because this is completely related to the experience.



APPENDIX H

RESULTS FROM STUDENT QUESTIONNAIRES

The results from the student questionnaires will be discussed in this report. The organization of information is based upon each of the topics asked in the questionnaire.

Table.1. Participant information

	Malaysian n=15		Chinese n=8		Total students n=23	
	n	%	n	%	n	%
Male	6	40	3	37.5	9	39.2
Female	9	60	5	62.5	14	60.8

Table.2. Student Response to the Question: During your past and current design studios at UKM, did your instructor(s) explain the purpose of a design jury to the entire class?

	Malaysian n=15		Chinese n=8		Female n=14		Male n=9		Total students n=23	
	n	%	n	%	n	%	n	%	n	%
Yes, in every studio	6	40	3	37.5	5	35.7	4	44.4	9	39.13
Sometimes	9	60	5	62.5	9	64.2	5	55.6	14	60.87
No, never										

Table.3. Student Response to the Question: During your past and current design studios at UKM, have you been encouraged to participate in the jury discussion when another student is presenting his/her project?

	Malaysian n=15		Chinese n=8		Female n=14		Male n=9		Total students n=23	
	n	%	n	%	n	%	n	%	n	%
Yes, in every studio	2	13.33	1	12.50	1	7.14	2	22.22	3	13.04
Sometimes	7	46.67	6	75	8	57.14	5	55.56	13	56.52
No, never	6	40	1	12.50	5	35.71	2	22.22	7	30.43

Table.4. Student Response to the Question:

Overall, do you feel jurors follow a certain structure for giving students criticism during a jury?

	Malaysian n=15		Chinese n=8		Female n=14		Male n=9		Total students n=23	
	n	%	n	%	n	%	n	%	n	%
Yes	6	40	2	25	6	42.86	2	22.22	8	34.78
Sometimes	9	60	5	62.5	7	50	7	77.78	14	60.87
No			1	12.5	1	7.14			1	4.35

Table.5. Student Response to the Question: Who do you think should benefit from a jury?

	Malaysian n=15		Chinese n=8		Female n=14		Male n=9		Total students n=23	
	n	%	n	%	n	%	n	%	n	%
a. the student presenting the project										
b. the jurors										
c. the other students at the jury	8	26.66			4	28.57	4	44.44	8	26.66
a and b										
a and c	6	40	5	62.50	6	42.85	5	55.55	11	47.82
b and c										
all	1	6	3	37.50	4	28.57			4	17.39

Table.6. Student Response to the Question: Who do you think benefits from the way juries are currently conducted?

	Malaysian n=15		Chinese n=8		Female n=14		Male n=9		Total students n=23	
	n	%	n	%	n	%	n	%	n	%
a. the student presenting the project	9	60	4	50	6	42.85	7	77.77	13	56.52
b. the jurors										
c. the other students at the jury	1	6.66			1	7.14			1	4.34
a and b										
a and c	3	20	2	25	4	28.57	1	11.11	5	21.73
b and c										
all	2	13.33	2	25	3	21.42	1	11.11	4	17.39

Table.7 Percentage of Students Who is satisfied with the Following Learning Situations.

	Malaysian n=15		Chinese n=8		Female n=14		Male n=9		Total students n=23	
	n	%	n	%	n	%	n	%	n	%
Desk crits	8	33.33	3	37.50	8	57.14	3	33.33	11	47.82
pin ups	7	46.66	2	25	5	35.71	4	44.44	9	39.13
juries	10	66.66	5	62.50	10	71.42	5	55.55	15	65.21

Table.8 Percentages of students who are learn very much from the following learning Situations.

	Malaysian n=15		Chinese n=8		Female n=14		Male n=9		Total students n=23	
	n	%	n	%	n	%	n	%	n	%
Desk crits	11	73.33	6	75	11	78.57	6	66.66	17	73.91
Positive criticism	7	46.66	5	62.50	11	78.57	1	11.11		
Informal criticism	7	46.66	4	50	10	71.42	1	11.11	11	47.82
Negative criticism	4	26.66	5	62.50	7	50	2	22.22	9	39.13
Final juries- your project	7	46.66	6	75	10	71.42	3	33.33	13	56.52
Final juries- other students project	6	40	4	50	10	71.42			10	43.47

Table.9 Percentages of students who are agree that the following items are goals of desk crits

	Malaysian n=15		Chinese n=8		Female n=14		Male n=9		Total students n=23	
	n	%	n	%	n	%	n	%	n	%
Chance for teacher to listen to ideas	10	66.66	6	75	10	71.42	6	66.66	16	69.56
Understand your own design process	11	73.33	7	87.50	11	78.57	7	77.77	18	78.26
Explore several design options	10	66.66	4	50	8	57.14	6	66.66	14	60.86
Respond to criticism	7	46.66	8	100	9	64.2	6	66.66	15	65.21
Advice from studio instructor	13	86.66	8	100	14	100	7	77.77	21	91.30
Be given a design solution by teacher	11	73.33	6	75	12	85.71	5	55.55	17	73.91
Gain confidence in design ability	11	73.33	6	75	11	78.57	6	66.66	17	73.91
Gain confidence in talking about ideas	11	73.33	7	87.50	13	92.85	5	55.55	18	78.26
Be given suggestions for further research	10	66.66	7	87.50	12	85.71	5	55.55	17	73.91
Fault finding in your design	9	60	8	100	11	78.57	6	66.66	17	73.91
Improve critical thinking skills	13	86.66	5	62.50	11	78.57	7	77.77	18	78.26
Encourage to explore your own ideas	13	86.66	8	100	14	100	7	77.77	21	91.30
Learn to critique your ideas on your own	10	66.66	4	50	8	57.14	6	66.66	14	60.86

Table.10 Percentages of students who are agree that the following items are goals of juries.

	Malaysian n=15		Chinese n=8		Female n=14		Male n=9		Total students n=23	
	n	%	n	%	n	%	n	%	n	%
Improve presentation skills	13	86.66	8	100	13	92.85	8	88.88	21	91.30
Listen to panel's feedback	12	80	7	87.50	12	85.71	7	77.77	19	82.60
Establish a letter grade for your project	12	80	7	87.50	12	85.71	7	77.77	19	82.60
See other students' project	13	86.66	7	87.50	14	100	6	66.66	20	86.95
Improve graphic skills	13	86.66	6	75	12	85.71	7	77.77	19	82.60
Chance for teachers to listen to your ideas	11	73.33	6	75	10	71.42	7	77.77	17	73.91
Find out what you did or didn't do well	11	73.33	7	87.50	12	85.71	6	66.66	18	78.26
Inform future design decisions	10	66.66	6	75	10	71.42	6	66.66	16	69.56
Allow others to find faults in your design	8	53.33	4	50	7	50	5	55.55	12	52.17
Improve design knowledge	14	93.33	7	87.50	12	85.71	9	100	21	91.30
Learn how to respond to criticism	14	93.33	6	75	12	85.71	8	88.88	20	86.95
Review the process that lead to your design	13	86.66	6	75	11	78.57	8	88.88	19	82.60
Improve critical thinking skills	10	66.66	4	50	10	71.42	4	44.44	14	60.86
Time for jurors to convey their knowledge	8	33.33	5	62.50	10	71.42	3	33.33	13	56.52
Listen to feedback given to other students	6	40	8	100	10	71.42	4	44.44	14	60.86
Discuss ideas and issues with others	11	73.33	6	75	12	85.71	5	55.55	17	73.91
Chance to please instructors	10	66.66	4	50	6	42.85	8	88.88	14	60.86
Improve design vocabulary	8	53.33	7	87.50	10	71.42	5	55.55	15	65.21

Table.11 Percentages of students who are frequently react in the following ways to desk crits.

	Malaysian n=15		Chinese n=8		Female n=14		Male n=9		Total students n=23	
	n	%	n	%	n	%	n	%	n	%
Encouraged	9	60	5	62.50	9	64.2	5	55.55	14	60.86
Confused	8	53.33	4	50	7	50	5	55.55	12	52.17
Receptive to feedback given	8	53.33	6	75	9	64.2	5	55.55	14	60.86
Disappointed	5	33.33	2	25	5	35.71	2	22.22	7	30.43
Excited about ideas	8	53.33	3	37.50	8	57.14	3	33.33	11	47.82
Resistant to take advice	6	40	4	50	5	35.71	5	55.55	10	43.47
Inspired	10	66.66	7	87.50	9	64.2	8	88.88	17	73.91
Frustrated because you didn't get answers	8	53.33	1	12.50	6	42.85	3	33.33	9	39.13
Confident in personal design process	8	53.33	3	37.50	9	64.2	3	33.33	11	47.82
Defensive of ideas	8	53.33	3	37.50	7	50	4	44.44	11	47.82
Ready to try new things	9	60	2	25	8	57.14	4	44.44	11	47.82
Nervous	6	40	2	25	3	21.42	5	55.55	8	34.78
Appreciate of feedback given	10	66.66	6	75	9	64.2	7	77.77	16	69.56
Indifferent	7	46.66	4	50	9	64.2	2	22.22	11	47.82

Table.12 Percentages of students who are frequently react in the following ways to juries.

	Malaysian n=15		Chinese n=8		Female n=14		Male n=9		Total students n=23	
	n	%	n	%	n	%	n	%	n	%
Encouraged	8	53.33	6	75	8	57.14	6	66.66	14	60.86
Confused	4	26.66	1	12.50	3	21.42	2	22.22	5	21.73
Receptive to feedback given	9	60	4	50	10	71.42	3	33.33	13	56.52
Disappointed	5	33.33			2	14.28	3	33.33	5	21.73
Excited about ideas	9	60	5	62.50	10	71.42	4	44.44	14	60.86
Resistant to take advice	6	40	1	12.50	5	35.71	2	22.22	7	30.43
Inspired	8	53.33	4	50	9	64.2	3	33.33	12	52.17
Confident in personal design process	9	60	3	37.50	9	64.2	4	44.44	12	52.17
Defensive of ideas	9	60	2	25	5	35.71	6	66.66	11	47.82
Ready to try new things	9	60	4	50	10	71.42	3	33.33	13	56.52
Nervous	6	40	2	25	5	35.71	3	33.33	8	34.78
Bored	3	20	1	12.50	1	7.14	3	33.33	4	17.39
Appreciate of feedback given	9	60	8	100	11	78.57	6	66.66	17	73.91
Indifferent	8	53.33	1	12.50	3	21.42	6	66.66	9	39.13
Argumentative	8	53.33	3	37.50	6	42.85	5	55.55	11	47.82

APPENDIX I

LIST OF PUBLICATIONS

Book chapter

Hassanpour, B., Book Chapter in “*Contemporary Architecture of Islamic Societies between Globalization and Traditions*”. Entitle: Investigation on Effects of common Universal Methods of Architecture Education on Architecture Students in Islamic Societies (New approach to sustainable Architecture education) (The book will be released in Jan 2013)

Journal Papers

Hassanpour, B., Utaberta, N. & Zaharim, A. 2012. Critical Analysis of Criteria-Based Assessment and Grading in Architecture Education (Universiti Kebangsaan Malaysia as Case Study). *Research Journal of Applied Sciences, Engineering and Technology* 4(14):2046-2054.

Ibrahim, N.L.N., Utaberta, N. & Hassanpour, B., 2012. Rasch Modeling Analysis in Assessing Student`s Ability and Questions Reliability in Architecture Environmental Science Examination. *Journal of Applied Sciences Research* 8(3):1797-1801.

Utaberta, N. & Hassanpour, B. & Bahar , M.A. 2012. The evaluation of critique methods in architecture education: A case study of critiques session in 2nd year design studio of Architecture Department, National University of Malaysia (UKM). *Advances in Environmental Biology* 6(5):1842-1847.

Hassanpour, B., Utaberta, N. & Sirjani , R. 2011. Investigation in Effective Assessment Models In Architecture Design Studios National University Malaysia as Case Study. *Australian Journal of Basic and Applied Sciences* 5(9):571-577.

Hassanpour, B., Utaberta, N., Zaharim, A. & Abdullah, NAG. 2011. Students` Perception of the Evaluation System in Architecture Studios: A Case Study of 2nd Year Studio in Architecture Department of National University of Malaysia. *Proceeding World Academy Of Science, Engineering And Technology* 77:1022-1025.

Hassanpour, B., Utaberta, N. & Zaharim, A. 2010. Redefining critique session as an assessment tool in Architecture Design Studio Class (A case study of 2nd year design studio in Architecture Department of Universiti Kebangsaan Malaysia). *WSEAS TRANSACTIONS on ADVANCES in ENGINEERING EDUCATION* 9(7):287-298.

Hassanpour, B., Utaberta, N. & Zaharim, A. 2012. Investigation in Necessity of Tutor Training in Architecture Education Using Rasch Measurement Model: Universiti Kebangsaan Malaysia as Case Study. *Amercian Journal of Applied Sciences*. Sci.,9:1884-1890

Conference Papers

Utaberta, N., Hassanpour, B., Zaharim, A. & Spalie, N. 2012. Re-assesing criteria-based assessment in architecture design studio . *Advances in Intelligent and Soft Computing, 2012 (Advanced Information Technology in Education)*

Utaberta, N., Hassanpour, B., Zaharim, A. & Spalie, N. 2012. Reconstructing assessment in architecture design studios with gender based analysis: a case study of 2nd year design studio of National University of Malaysia. *Advances in Intelligent and Soft Computing, 2012 (Advanced Information Technology in Education)*.

Utaberta, N., Hassanpour, B. & Zaharim, A. 2012. A comparative study on traditional design process with computer based Second Year Design Studio in National University Malaysia (UKM) as Case Study. *Proceedings of the 10th WSEAS International Conference on Education and Educational Technology (EDU`11)*.

Utaberta, N. & Hassanpour, B. 2011. Authentic assessment as a sustainable approach in critique session of architecture design studio : a case study of 2nd year architecture student of Universiti Kebangsaan Malaysia. *Proceedings Environmental Talk: Toward A Better Green Living 2011, Universitas Mercubuana, Jakarta*.

Hassanpour, B., Utaberta, N., Abdullah, N., Spalie, N. & Tahir , M.M. 2011. Authentic Assessments or Standardized Assessment New Attitude to Architecture Assessment. *3rd World Conference on Educational Sciences, WCES-2011;Istanbul (Procedia Social and Behavioral Sciences)*.

Utaberta, N. , Hassanpour, B., Che-Ani, A.I., Zaharim, A. & Abdullah, N.A.G. 2011. Criteria-Based Assessment & Grading in Architecture Design Studio. *8th WSEAS International Conference on Engineering Education, EDUCATION`11, 2nd International Conference on Education and Educational Technologies 2011, WORLD-EDU`11; Corfu Island*.

Utaberta, N. & Hassanpour, B. & Musa, A.R. 2011. Criteria-based assessment and grading in architecture design studio. *Proceeding of the 12th International Conference on QiR (Quality in Research), Bali, Indonesia, 4-7 July 2011*.

Utaberta, N. , Hassanpour, B. & Abdullah, N.A.G. , Tahir, M. & Che-Ani,.A.I. 2011. 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). *International Conference on Green Building, Materials and Civil Engineering, GBMCE 2011;Shangri-La (Applied Mechanics and Materials)*.

- Utaberta, N. , Hassanpour, B., Che-Ani, A.I., Zaharim, A. & Abdullah, N.A.G. 2011. Developing sustainable architecture education approaches in Malaysia: a case study of critiques session in 2nd year design studio of Architecture Department, UKM. *The 8th WSEAS International Conference on Engineering Education (EDUCATION) 2011*. Corfu Island, Greece: Corfu Holiday Palace Hotel. 14-16 Jul.
- Hassanpour, B., Utaberta, N. & Surat, M. 2011. Literature review on architecture education : redefining the idea of design studios in architecture. *Prosiding Simposium Alam Bina Serantau 2011 Universiti Kebangsaan Malaysia - Universitas Udayana 27 Januari 2011 Bali, Indonesia* .
- Utaberta, N., Hassanpour, B., Ibrahim , N.L.N. & Zaharim, A. 2011. Reconstructing framework for criteria-based assessment in 2nd years architecture design studio in UKM. *Kongres Pengajaran dan Pembelajaran UKM 2011, Seminar Pendidikan Kejuruteraan dan Alam Bina (PeKA 2011)* .
- Utaberta, N. , Hassanpour, B., Che-Ani, A.I. & Surat, M. 2011. Reconstructing the idea of critique session in architecture studio. *Kongres Pengajaran dan Pembelajaran UKM 2010; Tanjung Keling, Melaka (Procedia Social and Behavioral Sciences)*.
- Utaberta, N. , Hassanpour, B., Zahrim, A. & Surat, M. 2010. An analytical study of critique session in architecture design studio. *Proceeding 2nd International Congress on Engineering Education (ICEED 2010)*, Fakulti Kejuruteraan dan Alam Bina UKM
- Hassanpour, B., Utaberta, N. & Surat, M. 2010. Critique studio as an assessment tool in architectural pedagogy (a literature review and redefined). *Regional Engineering Postgraduate Conference (EPC) 2010, Universiti Kebangsaan Malaysia*.
- Hassanpour, B.,Utaberta, N., Tahir, M. , Spalie, N. & Che-Ani , A.I. 2010. Developing sustainable approach in architectural education: lesson from critique session experience of architecture studio program. *9th WSEAS International Conference on Education and Educational Technology (EDU10)*. Iwate Prefectural University, Iwate, Japan.
- Hassanpour, B.,Utaberta, N., Tahir, M. & Spalie, N. 2010. Developing Sustainable Approach in Architecture Education. *3rd International Graduate Conference on Engineering, Science, and Humanities (IGCESH 2010) -Sustainability for the Green Society Through Creativity and Inovation, UTM-Skudai, Johor*.
- Utaberta, N., Hassanpour, B., Abdullah, N.A.G. , Tahir, M. & Spalie, N. 2010. Reconstructing sustainable approaches in architecture education. *The Proceedings of the International Conference on Ethics & Professionalism: Sustainable Science, Technology & Society (ICEP2010)*, Pusat Pengajian Umum UKM .

Utaberta, N., Hassanpour, B., Abdullah, N.A.G. & Spalie, N. 2010. Reconstructing the idea of critique session in architecture design studios as a bridge between academic and practice. *International Technical Conference (ITC), Seoul, South Korea*.

Hassanpour, B.,Utaberta, N., Tahir, M. , Spalie, N. , Che-Ani , A.I. & Surat, M. 2010. Reconstructing the idea of critique session in architecture studio: a case study of 2nd Year Studio of B.Sc. (hons) in Architecture Design. *Prosiding Kongres Pengajaran dan Pembelajaran, Melaka, Malaysia*.

Utaberta, N. , Hassanpour, B. & Usman, IMS. 2010. Redefining critique methods as an assessment tools in architecture design studio. *6th WSEAS International Conference on Energy, Environment, Ecosystems and Sustainable Development (EEESD '10) & 3rd WSEAS International Conference on Landscape Architecture (LA '10)*.

Hassanpour, B.,Utaberta, N., Tahir, M. & Spalie, N. 2010. Redefining the idea of design studios in architecture. *Proceeding 5th ASEAN Post Graduate Seminar, Universiti Malaya, Malaysia*

