



ARCHITECTURAL DESIGN STUDIO PROJECTS AND THE CHARADES OF CURRICULUM

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ABSTRACT

Edification in Architectural Design Studios is primarily based upon dialogue between the student and the teacher. A unique dynamics is required to address this complexity. Since most Architectural Design Studios do not follow a conventional syllabus, architectural projects possess many charades which are tacit issues not covered in the curriculum. These charades of curriculum involve those unstated values, attitudes and norms that stem from the social, cultural and global exigencies of the course contents. "Design Projects" have to be tailored to suit the 'time and space' context of a group of students. The teacher brings into play his academic and professional expertise and experiences to inculcate a professional design ability. Contextual, social and many abstract issues need to be addressed. An interactive dissemination of design knowledge and skill, understanding the social and cultural mix of the students, mapping their academic, intellectual and cognitive vigor, currency of educational techniques and tacit curricular issues become useful tools in the hands of a Design Studio Teacher. There is much "pretension" and much more "masquerading" in the curriculum for the Design Studio Teacher to decipher. A participatory approach to learning (teaching) and earning (grading, assessment) can be mutually beneficial to all concerned.

Keywords: *Architectural Design Studios, Project Evaluation, Architectural Juries, Jury Wars, Architectural Curriculum, Hidden Curriculum, Charades of Curriculum.*

1. INTRODUCTION

Teaching is not only among the noblest of professions, it is equally challenging and is becoming increasingly competitive. Dynamics of education involve complex variables. This is truer for professional education and especially for the field of environmental design. Specificities of field like architectural education tend to be extremely demanding in view of their multi-facet countenance, which include scientific, social and artistic aspects among host of other branches of human knowledge. Studio-based learning is the *modus operandi* for architectural schools. Architectural Design Studios are usually supported by 'jury system', which tends to be highly subjective, and for some, very biased and sometimes extremely personal. It is little wonder, then, that a student of architecture tends to exhibit a higher level of discontent both with the curriculum and its enforcer, the faculty. This reaction by the students of architecture is manifested in a number of ways depending upon the socio-cultural norms of a given group. Jury Wars is a familiar term used in architectural schools. Isolationist project evaluation breeds suspicion and mistrust. It further alienates students from the learning process. Discontentment among students is prevalent and needs to be addressed as part of curricular development. A certain level of democratization of project evaluation can help alleviate problem. Many schools practice peer review of students' projects. Internal reviews of studio projects participated both by faculty and students, is not unusual. What is, however, not done is to involve students in grading process. This is the subject matter of this paper along with other curricular issues related to Design Studio. Student Participation in Project Evaluation may sound to be subjective, yet it can be transformed into a creative and objective exercise as the study in this paper demonstrates. The author has conducted this research over the last half decade and has collected interesting and valuable material that offers a wealth of creative and constructive approach for curricular, academic and professional restitution.

Data, thus collected, has been analyzed and processed and some conclusions have been drawn. This analysis highlights the pros and cons of the technique and points to the usefulness and effectiveness of this approach. At the same time it identifies gray areas that need to be improved upon in order to make the whole exercise more rational. Statistical analysis and academic discussion bring out an interesting debate on the relevance of this evaluation process as a useful tool for curricular and academic improvement as well as a satisfying package for the students. This exercise has aroused a unique sense of responsibility among the students who voluntarily participated in this undertaking.

2. SOME FACTORS AFFECTING ARCHITECTURAL EDUCATION

More than any other art form, Architecture is inscribed in the material as well as the ideal world. In this context, Architectural education is usually misunderstood compared to other technical fields. A quick comparison between the two shall show it is indeed so. Architectural Education revolves around the creative environment of Architectural Design Studios with

satellite theory courses around it, while other Technical fields employ testing of well-established scientific and technical principles (described in different courses) in Engineering Labs. Architectural Design Studios and Engineering Labs are, in many ways, much different from each other. This difference is best illustrated by comparing them to the *Romanticism and Rationalism* movement (Lesnikowski, 1982) in the 18th century that emanated in reaction to neoclassicism and laid emphasis on *imagination* and *emotions* as well as *sensibility*. Romanticism, is defined as an appreciation of the external nature, while Rationalism means reliance on reason alone as the supreme authority in matters of opinion, belief, or conduct applicable only to tangible and measurable commodities (Webster's New Collegiate Dictionary, 1981).

Matters related to architectural education and training of architects are intertwined with social and cultural exigencies and offer great richness that needs to be preserved. But, for practical reasons and needs of a growing global culture, this diversity of social and cultural mix needs to possess certain level of commonality. Architectural Design Studio is just one such common pedagogical platform. And, indeed, it is the most important of the platforms in the domain of architectural education. This platform, the *design studio*, provides a domain of trepidation that helps a student bring together his reason (rationalism), emotion (romanticism) and intuition (mysticism) to enhance his ability to conceptualize, co-ordinate and execute his idea of a built environment rooted in human culture. It is in the *design studio* that a student creates architectural design mixing the aesthetics (of the ambience) with technical requirements (of the building) and social, psychological, fiscal and physical needs of the user. It is, therefore, important to look into the role the Design Studio plays in architectural education.

2.1 Role of Design Studios in Architectural Education

Boyer and Mitgang (Boyer, Earnest. 1996) state that traditional architectural education in general and design studios in particular hold vast potential as a model for integrated learning. "It is a process, a way of thinking during which the many elements, possibilities, and constraints of architectural knowledge are integrated. At its best, the design studio sequence provides the connective tissue that brings together, progressively, the many elements of architectural education" (Boyer, Earnest. 1996). Donald Schon (Schon, Donald. 1983, 1987) states that "in an architectural design studio, students spend much of their working lives, at times talking together, but mostly engaged in creative, private and parallel pursuits of the common design task." Studio-based instruction and learning has become a hot topic in education today" (Lackney J. A. 1999). Thus discerning the dynamics of studio-based learning in architectural education can provide us with a deeper understanding of its purposes and goals. The conventional architectural design studio models originate from European tradition of "Arts and Crafts" movement. The first model evolved out of Ecole's philosophy through Ecole de Beaux Arts in Paris and was based upon a "design problem" being assigned to the students early in the term and carefully developed under close tutelage of a teacher

(Studio Master). This process began as a “sketch problem” and developed into what was called “Charrette”, the French equivalent of “Cart.” Beaux Arts teaching relied heavily on “brilliance” of the teacher and the learning-by-doing efforts of the student, which inculcated intense “competition” among the students and enhanced their “good taste” and “intuition.” The other studio model, also from Europe, came from “Bauhaus” school, whose director, Walter Gropius, said that “design was neither an intellectual nor a material affair, but simply an integral part of modern concepts of mass production and modern technology,” which Beaux Arts had refused to accept (Lackney J. A., 1999).

Although the two models were challenging each other, the basis for of studio based-learning essentially remained unchanged. Both heavily relied on practical hands-on learning with “jury system” providing the basis for students’ projects’ evaluation. The International Union of Architects, UIA/UNESCO (UIA/UNESCO. 1996), also emphasizes the importance of studio-based learning in order to achieve a global acceptance of architectural education and practice.

Architectural design studios act as the melting pot for the entire curricular learning. Here the teacher imparts his maximum and, perhaps, his best intellectual and academic contribution. This is also the testing ground for the student to demonstrate control and command over his creative abilities. Generically, all other courses are linked to Design Studio in a dynamic manner, as shown in Fig.1.

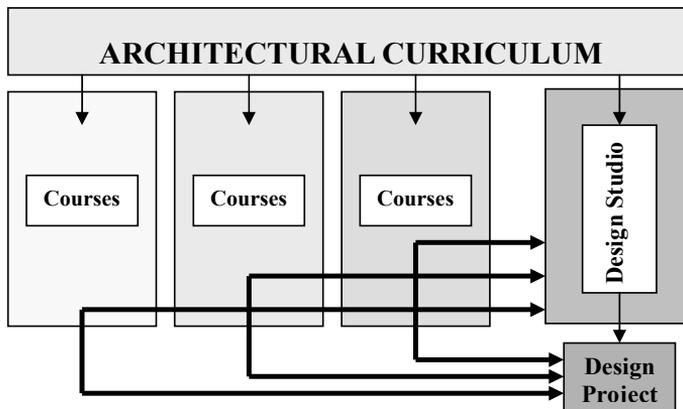


Fig. 1. Generic Links Between Architectural Curriculum and Design Studio

Architectural Design Studio is a crucible, where a student is groomed and shaped into an architect. Frequently discussed issues include: aims and objectives, course content, course material, building typology etc. However, what is usually not discussed, neither considered, is the issues related to the participants i.e. the students on one hand and the faculty on the other. Chemically speaking, final product out of a process depends not so much on the ingredients but on the environment these ingredients are subjected to. Finally, the manner these

ingredients are manipulated, determines the end product. Again, in chemistry, heat (energy) and time (duration) are fundamental to the outcome of the product. It is this basic issue (energy and time) that usually is left at the disposal of teacher and hence the importance of the role of the Design Studio Master. At the same time the basic traits and characteristics of the other participant, the student, are equally important as the determinant of the final outcome. These two determinants, the teacher and the student, are by any definition, the most important factors that actually affect the design output of a studio environment. Being human, they together constitute the most complex of the factors that can be discussed in understanding and evaluating any academic or a professional exercise (Siddiqi A. A., 2002).

In the architectural design studios, the relationship between the student and the teacher is on one to one basis. It frequently overflows beyond the domain of designated time and space. The student and the teacher work as partners. It is this sense of partnership that demands proper understanding and parity of thoughts between the two. Teacher usually is considered as a role model and as social and psychological counselor. He also performs as an administrator to achieve practical results. The teacher provides the student with an in-house architectural critique. This demands a high level of impartiality and objectivity. His personal liking or disliking should not hamper the student's creative ability in any way. Parity is needs to be established. The teacher should adjust his thoughts and architectural criticism to match the intellectual and academic levels of the students. He must be fully aware of their academic background. An assessment of visual and verbal communication ability of students can usually bring out the best in each of them. A certain level of art of diplomacy is needed in order to optimize the frequently high expectations.

3. RE-DEFINING ARCHITECTURAL DESIGN STUDIO

Unlike much other form of arts, architecture is the art of utility. Unlike the freedom enjoyed by other arts where an artist can draw, paint or sculpt simply for his personal satisfaction, architect has to respond to a multitude of contenders namely the owner, the client, the user, the contractor and above all the contextualizing environment both physical as well as spiritual. More often than not, these contenders are at odds with each other. It is a challenge then, for the architect, to remain creative, as that remains his sole responsibility. One way of fulfilling his responsibility is to remain practical and it is this aspect of the profession that makes him unique from almost all others (Siddiqi A. A., 2002).

Unlike most science/engineering subjects, which are simply put to test for mere verifications in laboratories, architectural courses are grinded in the crucible of Design Studios to prepare the students to bring forth solutions to given problems in a creative manner. Design Studios are sites for discourse and dissemination of all forms of knowledge in an attempt for creating a consistent and a cohesive architectural thesis. Design Studios are the melting pot for intellectual and intuitive ability along with technical and physical skills. It is in the spirit of

above stated facts, that one must not confuse Architectural Design Studios with Scientific or Engineering Labs.

Recent research on impact of design studio education in architecture (and even beyond), has proved the depth and breadth of knowledge and skilled acquired by students to be of much superior quality and is found to be much enduring (Lackney J. A., 1999). The “ACHIEVE Mississippi Partnership” program has introduced a teacher/student training program using studio-based learning process and is funded by a \$8.5 million grant from the U.S. Department of Education (Joe Farris. 1999).

3.1 Role of the Architectural Educator

A design teacher has many roles to play. He is the educator. He is, usually, the author of the program. He is the mastermind of the project details and its other aspects. He is the guide if the project deliberations need visitation to site and case studies. And, finally, he is the client to his students. He keeps full control over the sailing of the Design Ship. This multi-disciplinary role requires him to deliberate, debate and enter into a perceptive dialogue with students on the issue of Creative Design Development. It is here that the Design Teacher applies his very personal knowledge and skill to motivate the students. It is here that the Design Teacher speaks of things never ever mentioned, explicitly, in neither the curriculum nor the syllabus. In this respect, the Design Teacher acts as a role model for the students. He undertakes, initially, to map the intellectual as well as academic capabilities of individual students. He has to prepare a strategy that suits this unique situation. The agenda on his hand is unique; very individualistic; highly perceptive; articulate and innovative. He needs the potential of a psychiatrist, the diagnostics abilities of a doctor and precision of a surgeon in order to achieve reasonable success. It is never easy. It is always challenging and above all, it is most rewarding as he brings the best out of the student; sometimes the best out of the worst. That is the legacy of an architectural educator. It is here that the Hidden Curriculum becomes manifested (Thomas Ditton A., 1991).

3.2 Architectural Curriculum and its Oddities

Most curricula and courses are based upon Rationalistic approach. They revolve around syllabi based upon tangible, discernable and tactile deliverables. This can be termed Rationalism. However, there are other curricular dimensions that involve those unstated values, attitudes and norms that stem tacitly from the social and cultural exigencies of the course contents. This constitutes Romanticism in design studio context. Most architectural curricula define course contents of Architectural Design Studios as bare minimum; Sometimes none at all. This is because Design Projects have to be tailored to suit the hidden context of time and space of a group of students. The teacher brings into play his personal as well professional expertise and experiences to inculcate proficient design ability among

students. For this, he has to rely on contextuality of a project both in terms of its location (site etc.), its societal pedestals (socio-cultural issues) as well as more tangible concerns such as cost, financial matters, the triad of men, machine and material, structural and spatial inventories, construction and contractual time-frames, climatic and environmental aspects, heritage and conservation issues and alike. No curriculum can ever be written to take stock of this huge enumeration, let alone prepare a syllabus and course contents for it. Such complex diversity asks for an initial simplicity of approach. This demands for leaving much to the Design Studio Teacher. Much is hidden for the teacher to discover. This is where the term Hidden Curriculum in Architectural Design Studio Projects comes into play.

3.3 The Architectural Educator and the Hidden Curriculum

As stated earlier, indoctrination in Architectural Design Studios is primarily based upon dialogue between the student and the teacher. But a true and a purposeful dialogue can only take place among equals. There is no dialogue between masters and servants, for the master

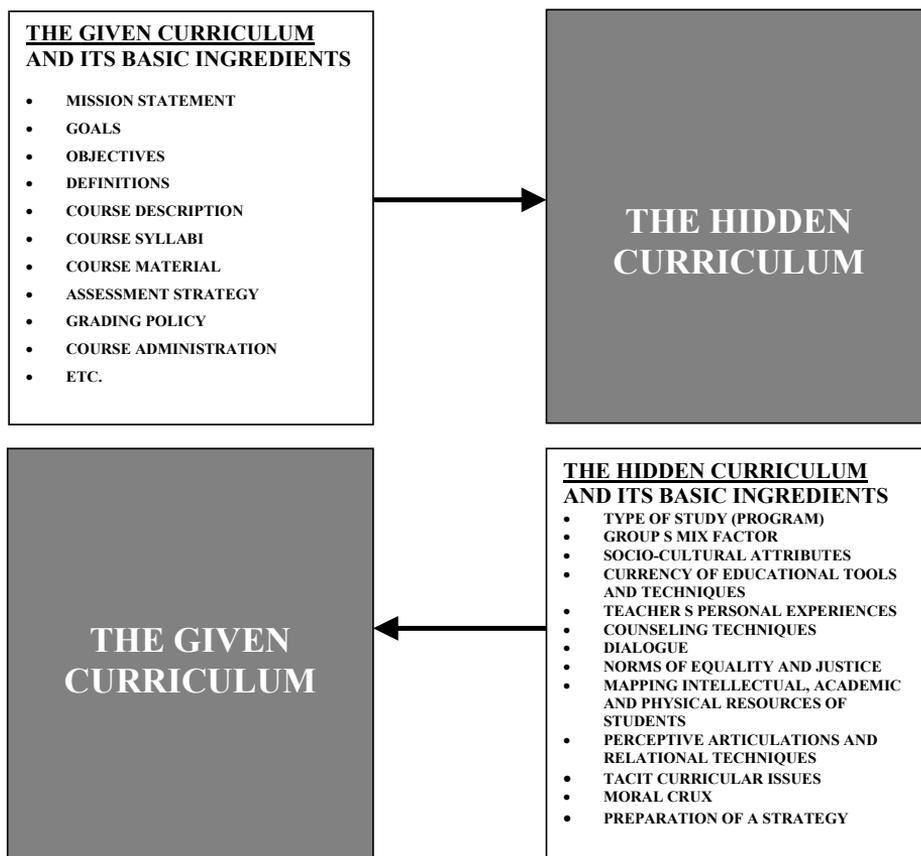


Fig. 2 Inter-relationship between a GIVEN and the HIDDEN curriculum.

will listen only as long as his powers remain intact and the servant will limit his communication to utterances for which he cannot be punished. This requires a great endeavor on the part of all the players (students, teachers, curriculum writers, etc.) to address the complexity of the equation. Pragmatically speaking, an ideal equality is neither possible nor desirable in the present context. Some sort of hierarchy needs to be established in terms of student-teacher relationship. At the same time a spirit of competition has got to be infused among the students in order to motivate them for seeking creative solutions to (architectural) problems. This is never going to be easy. The problem is further compounded by the fact that Architectural Design Studios do not follow a set syllabus, though a fundamental, rudimentary curriculum may be provided for. So what, then is the way out of the paradox? Notion of Romanticism and Rationalism in Architecture, as mentioned earlier, offers an appropriate rejoinder to this enigma. Socio-cultural diversity of most architectural projects possesses many hidden dimensions. These hidden dimensions are usually not covered within the fold of course contents. These are tacit issues not covered in the curriculum. The Hidden Curriculum is the tool of choice, then (Thomas A. Dutton. 1991), as it is a way of delivering design values and virtues in a more subtle manner (Kathryn H. Anthony. 1991).

3.4 Design Studios and Project Evaluation: Design Juries

Design Juries are some of the most burning issues in architectural education all over the world. The term *Design Jury Wars* is synonymous with this issue. Some of the most gifted students of architecture simply break down because they never understood the motives and purpose behind the Jury. Many students end up with juries as a frustrating and humiliating experience. Others can not see the objectivity in the exercise and grumble on their being subjectively targeted, complaining that jury members simply love to disparage them. All this can be avoided if teachers at various levels instill in the students the true meaning, motive and objective of design juries by lecturing the students on the importance of the evaluation process as an integral part of architectural education. The design criterion for architectural education as laid down by UIA/UNESCO (UIA/UNESCO. 1996) also underlines the need for “self-evaluation” and “peer-review conducted at regular intervals. In addition, direct student-teacher dialogue is highly recommended for sustained learning process.” Self assessment strategy has also been identified as a useful tool for evaluating work of visual arts (that includes architecture) by the Curriculum Branch of the Ministry of Education, Province of British Columbia, Canada (Kathy Lynch. 2001). Kathy Lynch (Kathy Lynch. 2001) has furthered the application of studio-based learning to IT education and has adapted the Bauhaus studio model for this purpose.

Dialogue is the tool for most architectural educator. Dialogue essentially requires equality of partners. It needs a conducive working environment for any measure of success. A rigid, inarticulate curriculum and syllabi devoid of innovative techniques and lacking freedom of academic and professional discourse and seeking only the bare minimum, is not what

Architectural Design Studios can be built upon. As melting pot of Architectural Education, and as the prime forum for creative activity, Design Studios require appropriate ingredients and the right environment in order to make an Architect out of a mortal.

4. RESEARCH METHODOLOGY

The present research comprises an analysis of data collected over a period of five years. Fig. 3 shows the details and sequence of activities for data collection exercise. As can be seen, data is gathered from a particular design studio four times /semester. This strategy is a development of the presented technique, which necessitated this extended data collection requirement. This was found necessary as the initial stages of research showed a marked variation in data collected only twice/ semester i.e. at the beginning and just before the final examination.

Week No.	Events	Data Variable	Remarks
1	Course and its contents and syllabus introduced		Survey sheet distributed
2	Students asked to submit their anticipated grade which they intend to achieve	G1	This number is usually very <i>unrealistic</i> and <i>ambitious</i> .
3-5	Course work continues		
6	Students submit revised anticipated grade I	G2	<i>A realistic picture emerges</i>
7	Mid-Term Exam		
8	Students submit revised anticipated grade II	G3	<i>Students can rate themselves better</i>
9-14	Course work Continues		
15	Final revised grade submitted by student	G4	This one shows <i>max realism</i>
16	Final Examination	Arranged by Registrar conducted by teacher	
17	Final Grade posted (earned by the student)	<i>The real grade a student finally receives</i>	

Fig. 3. Research Methodology and Sequence of Events

This data was collected through a survey sheet that was handed to students of all the courses conducted by the author throughout this period. Fig. 4 shows this survey sheet for data collection from the students.

Fig. 4. Typical Survey Sheet for feed back and data collection

King Fahd University of Petroleum and Minerals
College of Environmental Design
Architecture Department

Survey Sheet for
 Students Feedback:

To be filled in and sent to:
Dr. Anis A. Siddiqi, Architecture Department
 College of Environmental Design
 Phone (off) 860-2616
 E-mail anis@kfupm.edu.sa

DEAR STUDENT

You are required to: State what grade you expect for this course at the end of this semester. Please note that this statement neither binds you nor the teacher to grant you **this** grade at the end of the semester. Your final grade is independent of this anticipated grade. The grade that you get for completing this course is the one that you would have worked for and you would have deserved.

Student Name										
Course Name										
Course No.										
Semester										
Anticipated Grade (encircle ONE value only)										
A+	A	B+	B	C+	C	D+	D			
Grades in all previous Design Studios										
DESIGN STUDIO	GRADE									
	A+	A	B+	B	C+	C	D+	D	F	
ARC 100										
ARC 101										
ARC 202										
ARC 203										
ARC 304										
ARC 305										
ARC 406										

Dated	Day	Month	Year

(Students report their assessment based upon information in the KFUPM booklet entitled Undergraduate Study and Examinations and Regulations and the KFUPM Rules for Their Implementation, First Edition, March 1997).

Grades	Marks	Points		Grades in English
A+	95 – 100	4.00	5.00	Excellent
A	90 – Less than 95	3.75	4.75	Excellent
B+	85 – Less than 90	3.50	4.50	Superior
B	80 – Less than 85	3.00	4.00	Very Good
C+	75 – Less than 80	2.50	3.50	Above Average
C	70 – Less than 75	2.00	3.00	Good
D+	65 – Less than 70	1.50	2.50	High-Pass
D	60 – Less than 65	1.00	2.00	Pass
F	Less than 60	0.00	1.00	Fail
IP	-	-	-	In-Progress
IC	-	-	-	Incomplete
DN	-	0.00	1.00	Denial
NP	60 or Above	-	-	No Grade-Pass
NF	Less than 60	-	-	No Grade-Fail
W	-	-	-	Withdrawn

Fig. 5. Grading System as used in KFUPM (based on a scale of 0.00 - 4.00).

5. DATA ANALYSIS, RESULTS AND DISCUSSION

Fig. 6 shows a comparison between two scenarios. Scenario one (Case I) is a comparison between G_o (the average of all the grades submitted by a student) and G_s , the final grade as awarded by the teacher, when the final grade is higher than the average. The second scenario (Case II) is characterized by the final grade being lower than G_o .

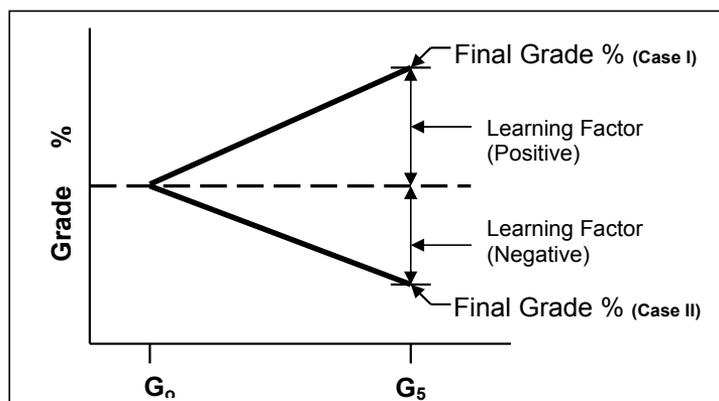


Fig. 6. Comparison Between the Two Scenarios

The difference between these two scenarios highlights a student's ability to judge his standing in a particular course. It is also a case in point that if a student tends a lower expectation and keeps working hard, his final grade being high, he indeed demonstrates a Learning Factor, which may be roughly defined as an enhancement of his expectation. On the other hand, if a student begins with higher expectations and does not achieve a comparable grade (final grade being lower than he rated himself for), then his Learning Factor turns out to be negative, a net loss on his own assessment.

This indeed has a strong bearing on the overall objective of this research, namely, a tool to improve teaching and evaluation of architectural projects. Generally students showed little or no concern of these parameters, but when they were exposed to recurring outcome of this technique, they not only demonstrated a higher sense of satisfaction, they also started assessing themselves in a more realistic manner. This is clear from Fig. 7 which shows relationship between the cumulative Self-assessed and Final grade of all students plotted for the entire period of the research. It can be seen from Fig.7, that there is a general decaying factor affecting this relationship. The Fig. 7 further shows that there was little change (decay) for the initial few semesters when students were neither very clear about the methodology of the research technique nor, indeed its intentions. But as they were presented the results of the study, they increasingly got more and more involved and started realizing the importance and benefits of this technique. As a result of this realization and a regular feedback, students generally demonstrated a higher degree of modesty and self-control as well as a higher sense of realism resulting in an increased level of satisfaction towards the final grades. Indeed the author is progressively being visited by less and less students at the end of each project, as they (students) become more and more aware of this approach. Academically speaking, this has affected the way a course is usually organized as well as the intensity with which the author can extend professional help to his students. Overall, it has been a satisfying effort.

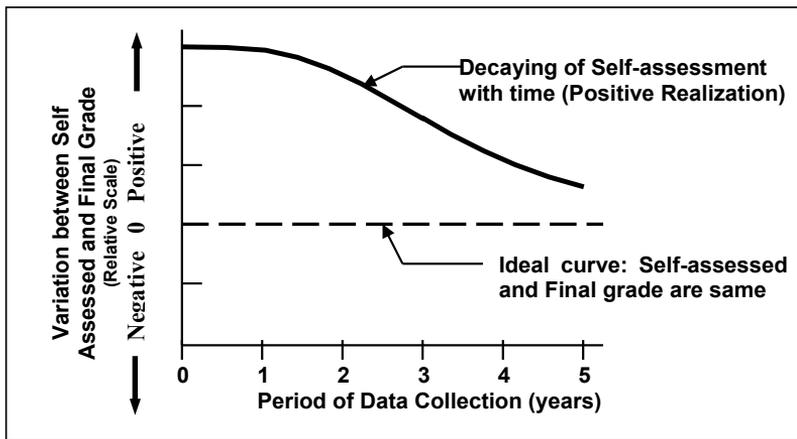


Fig. 7. Variation Between Self-assessed and Final Grade over a period of Time

Fig. 7 is not an end in itself, it is only indicative of change through a process. In fact, the later part of the curve suggests a number of possibilities; namely, that either the curve will hit the ideal situation, or will hit negative value indicating a higher than expected sense of realization among students or, perhaps, will extend further to remain illusive of its final behavior. There are number of factors affecting this outcome. One, There has never been a serious attempt to experiment with students participatory project evaluation in architectural education; Two, Very few students were involved in the survey due to low student enrollment; Three, a lack of belief on the part of the students on the intention and outcome of the research; Four, Socio-cultural forces have stood between expectations and realities; Five, a few years period is, perhaps, too short for a meaningful answer to the burning issue of architectural project evaluation.

A noticeable change has also been observed in students response to their end of semester grades. The students seem to demonstrate a higher level of agreement. This can be attributed to a number of reasons. One; the students have actually participated, if only partially, in the grading process. Two; whatever level of dissatisfaction or disagreement would have been there, it has simply dissolved and thinned out over a period of time. During this time (a semester) students have ample opportunity to discuss and debate on the trivial issue of *project evaluation*. Fig. 8, show a graphic view of this development as a result of the current research. It is hoped that a more comprehensive data and a meticulous analysis shall further throw more light on this issue and lead to a better understanding of the problem.

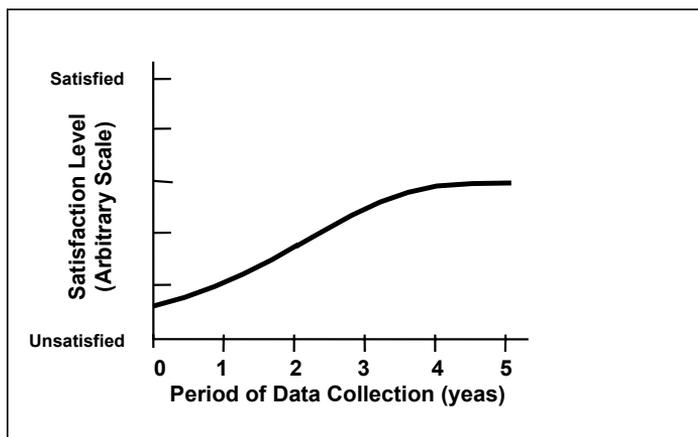


Fig. 8. Change of Satisfaction Level by Students of their Project Grading over the period.

6. CONCLUSIONS

The presentation in this paper is only a part view and a partial solution to the complexity of problem that faces architectural educators around the world. The research does not address many other related variables concerning architectural project evaluation. The list of these variables can be very long indeed. But it has been successfully highlighted that a *participatory approach* to the problem will not only address trivialities of the problem, it shall, with a more dedicated research and analysis, be able to put forward answers to related concerns. In this respect, following is being proposed to further the research:

1. More variables, such as socio-cultural values and virtues, national and regional aspirations, curricular specificities, institutional goals and objectives and issues related to the problem of *architectural project evaluation* techniques should be incorporated into the currently proposed research methodology.
2. Proposed research should be applied over a greater geographical limit, e.g. should cover as many architectural schools as possible. To begin with, all architectural schools in the Kingdom of Saudi Arabia should be included to study this predicament.

3. Peer involvement can add much realism to the exercise.
4. A more comprehensive and detailed survey sheet needs to be developed to include a variety of important determinants.
5. Potentials of using Studio-based learning in other technical (engineering e.g.) branches of K.F.U.P.M. should be considered as case studies and further research.

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