The *Adjunct* Course: Toward an Integration of Theory into the Design Studio Experience

ALEXANDER MALLER
University of Nebraska — Lincoln

Key words: architectural education, design studio, theory, adjunct course.

INTRODUCTION

> One cannot climb the tree of architectural knowledge. One prepares the mind so that it may grow within.
> — David Oakley (1970), p. 15.

The purpose of this paper is to present, for discussion, ideas and a few findings on the development and implementation of a curriculum component: an *adjunct sequence* to the design studio, options for syllabi formats and placement in the curriculum. The adjuncts' objective is to provide a structured pedagogical instrument focused mainly on the translation of various theoretical sources into design thinking. The adjunct sequence of courses of our curriculum is a systemic element attached in various ways to the design studios, starting in the pre-architecture program and continuing up to the fourth year.

The paper focuses on the contribution of the adjuncts to curriculum development as a comprehensive pedagogical system. It is beyond the scope of this article to discuss the development and performance of specific adjunct courses. The sustained effort of each faculty member deserves separate and in-depth consideration. Also, it is still premature to undertake a comparative evaluation of the program, in its new configuration, relative to its previous performance. The recent full reaccreditation of the program has strongly endorsed the approach.

The issue discussed in this paper focuses on one question:

How shall the studio design experience be enriched with theoretical content and inquiry?

THE NEED

> Wherever there is a situation, there is a horizon which can be contracted or enlarged.
> — Paul Ricoeur (1993), p. 62.

The argument brought forward by the author is based on two premises which have the consensus of the program's faculty and are widely accepted in architectural education:

(a) the design studio is the core environment for professional architectural education ; and

(b) the incorporation of theoretical knowledge' and critical thinking in the studio learning experience is key in enabling future architects to become competent and confident professionals in practice[2] or scholarship.

In order to address the two premises mentioned above, a number of issues need to be discussed. One issue examines the nature of the theoretical material suitable for inclusion in the studio:

* are we talking about abstract theory or applied theory?
* should the theoretical material be descriptive or should it also be normative and critical?

Another asks:

* what kind of theory does architectural design education require — exclusively architectural theory or a variety of theoretical studies from different domains [i.e.: engineering, art, science, law]?

One may carry this inquiry further and ask:

* what do we mean by architectural theory?

We believe that the goal of architectural education — in its totality, nationwide — is to lay the foundations for the creation of a broad professional cadre able to offer a broad range of expertise that can cover the whole spectrum of architectural activities.'

Early formal architectural education, as defined by Durand and others, recognized the need to help mitigate theory into the design learning and provided modes of translation and incorporation [i.e.: Durand's typological pedagogy]. Such approaches maintained that rigid pedagogical patterns may be effectively taught and learned with productive and even inspiring consequences. One major reason these approaches brought practical results was the relative stability, for a considerable period of time, of socio-cultural conditions. However, when the knowledge basis, culture and society are changing rapidly, as they are today, a static educational structure will rapidly lose its relevance.

The BAUHAUS / CIAM revolution in design attempted to solve the challenge of the architectural phenomenon in cultures in change by adopting an ideological filter: the Marxist thinking and its materialistic dialectic. The positivist, determinist nature of this filter was able to simplify the design process and paradoxically provide, in practice, some efficient, but short lived solutions to the disasters its political counterparts have caused throughout the XXth century. The academic concerns and pedagogical interpretations of this revolution were less one-sided and recognized, already in the early phases of the new thinking, the futility of the Marxist predominant filter. Critics created groups and schools with different approaches.' However, all these groups and schools continued to view the world through singular filters that were representative for each group. It is only in the latter part of this century that the need to adopt an open minded, pluralistic attitude to design and its related knowledge, free from preconceived ideologies, started to gain recognition.[5] More recently, developments in human and artificial cognition, the fragility of the natural environment, the limitation of available resources, revolutionary scientific discoveries and technological innovations, confront us with a new dynamic world which our education and, consequently, our practice are just beginning to grasp.[6]

Questions, such as those mentioned above, become more signifi-

cant to day than ever due to the rapid and vast expansion of knowledge our culture produces. Historically, the transfer and incorporation of theoretical knowledge was and still is conducted through a kind of "osmosis" process. The students are expected to absorb and understand discreet areas of knowledge based on focused studies, delivered by experts, while the evaluation of their achievements is reached by discrete, focused testing.

It is widely accepted that the design transformation process is dependent on the ability of the student to be critical toward the available information. However, does the pedagogical reality reflect this premise? Garry Stevens (1990) observes that "architecture is full of criticism, but there is scant criticality" (p. 335) and describes the situation as follows:

> The sort of toing-and-froing, of probing and questioning, between student and tutor, that marks the best in a liberal education is quite absent in the relationship between architecture student and design critic. The critic criticizes and that is that. Dissent is taken as insolence or stupidity. The result is to produce individuals who are exquisitely sensitive to criticism of any kind, taking it as a personal attack on their whole being, and who refuse to engage in the sort of debate that is the lifeblood of our intellectual tradition, responding instead with silence [if they are very young and unimportant] or hysteria [if they are old or important]. (pg.335)

A traditional design education requires the student to invest considerable self-generated effort in the studio in an attempt to transform, often with limited success and many compromises, the previously acquired knowledge, into design procedure. The student's limited translation know-how, combined with the demand to produce and visualize, in a persuasive manner, complex ideas, often reduce to a minimum the results of this intellectual effort and diminish the achievements of the design studio: the pedagogical objectives are minimized, projects are limited in their complexity and justification of the results is limited to few and simple arguments. This pedagogy relies heavily on the studio instructor. In such an environment, the instructor's time is divided between the effort to generate the translation thinking, reach coherent answers and finally, focus on criticism. In these conditions the design instructor is faced with two dilemmas:
(a) if the instructor is keenly interested in conducting a critical discussion s/he has to overcome the students' lack of translation abilities and time by guiding the students toward a prescribed solution which can than be discussed; and
(b) if criticism is not a goal of the design learning, translation and representation remain the only goals, with little attention given to content and reasonable, justifiable shape generation.

Sometimes, explanation and justification are replaced by confusing narrative which can seldom, if at all, stand the scrutiny of reasonable doubt. A retreat of design teaching into introspection and imagery, divorced from commitment to society and culture, removes education from practice and, if successful, might produce, at its best, ego-centric, self-defined "heroes" focused on the "sublime", but estranged, or even hostile, to common architectural concerns.'

This situation reveals our pedagogical crisis: there is too much available knowledge and too little resources dedicated to develop the students' ability to decide by themselves. This situation indicates that, in order to produce an inspired, proficient and 'well-rounded' architect, we might need to shift our pedagogical focus from the acquisition and understanding of knowledge to the ability to identify and evaluate relevant knowledge. In order to make it possible for each studio level to provide additional design abilities, students must be educated to identify, by themselves, the knowledge relevant to their project and be able to justify in convincing ways their decisions. Such a orientation enhances the development of critical thinking abilities limiting the transfer of knowledge to its essentials. Given the considerable number of architectural schools, we can expect a broad and inspiring diversity of orientations, which reflect the complexity of our profession and offer rich opportunities for students to identify their preferred direction.

THE ROLE OF THE ADJUNCT IN THE CURRICULUM

> The person who has understood his Wittgenstein in the right way can "throw away the ladder after he has climbed up it." He is free to use the form language of architecture, for he knows its limits. Then he uses language in the right way.
> — Kaj Nyman (1986)

We can summarize, in somewhat broad terms, the learning activity in the design studio as "reflections-in-action" (D. Schon, 1985) focused on creative, experimental studies of visual simulations. Anton Ehrenzweig (1967) tells us that: "Creativity can almost be defined as the capacity for transforming the chaotic aspect of undifferentiation into a hidden order that can be encompassed by a comprehensive [syncretistic] vision." (pg. 127)

In this context, the role of a pedagogical vehicle, such as the adjunct course is to focus the student's attention on the thinking process itself and on the understanding of the decision making involved in the architectural design process. The experience accumulated in the last century has highlighted the need to find an efficient modality to enable the identification, reflection, interpretation and translation of acquired knowledge into an inclusive, yet maneuverable, solution which can be applied to changing and often unpredictable living conditions. Notions such as accidental development, obsolescence, flexible systems and 'fuzzy' solutions are being considered in addition to the established *good-fit* expectation. Notions such as, "selection," "exclusion," "reflection," "interpretation," and "translation" which are part of the adjunct's concern, have become subjects of wide discussion in recent architectural studies. It is beyond the scope of this paper to enter the intricacies of these discussions.

The introduction of the *adjunct* sequence can reduce the confusion caused by undifferentiated input of theory, by providing an understanding of the translation process between theory and application and helping channel studio focus toward the problem-setting and problem solving objectives of design. The adjunct teaching would concentrate on :
(a) developing the understanding of ways and means that assist students "to reflect" on theory, helping them investigate different "orders" and discussing translation possibilities between "orders"; and
(b) understanding and evaluating criteria for the selection of translation means.
We can identify two categories of translation means:
(a) analytical means- descriptive and normative - relevant to the subject-matter of the specific adjunct;
(b) critical thinking, lateral thinking or games.

One should also be aware of a potential danger embedded in the adjunct's discursive nature. Since the content of the course is intended to provide tools for the interpretations of knowledge and translations from one thinking mode into another, the student may be easily diverted, by a motivated teacher, away from open-minded discussion toward the teacher's preferred ideology. The consequences of such an "indoctrination" may not become obvious immediately. Initially, an ideological basis might provide faster acquisition of a translation basis in the *adjunct* and more efficient design development productivity in the design studio. This efficiency would be achieved by sacrificing opportunities for interpretations and by reducing the discussion to a single "truth," which the student would come to believe is his/her own. It is difficult in an open academic environment to control such development. However, one can assume that the enhanced focus of the design studio on concep-
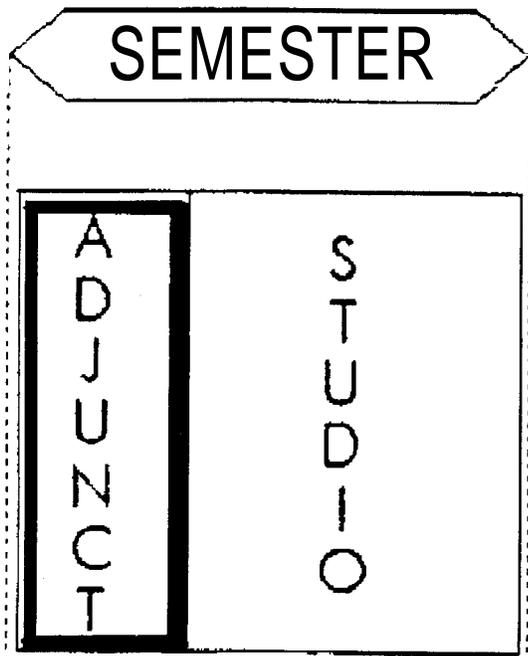
Figs. I and 2. (left) Diagram of mixed format syllabus: the adjunct precedes the project development.

Fig.2. Diagram of mixed format syllabus: the adjunct is fragmented and supplements each phase.

tual transformations and open critical discussion, would expose the ideological limitations faced by an indoctrinated student and help the student overcome them.

Two prerequisites can be helpful in developing an effective design-supported-adjunct pattern: (a) prior to entering the design and adjunct sequences the student could acquire a basic amount of introductory theoretical content and a beginning experience in fundamental design studies; and (b) in parallel to the participation in the design-cum-*adjunct* sequence, the student continues to acquire and expand his/her knowledge-base by attending required and elective professional and general courses.

The connection between the adjunct and theory courses needs to address the scheduling of courses. Theoretical courses follow sequences which cannot always be tightly related to the studio sequence. It takes some demanding faculty discussions and efforts to reach agreement on how to achieve the different connections. The adjunct, as a mediator, can simplify, to some degree, these connections. The introduction of an adjunct sequence may become an addition to the inventory of courses with a separate allocation of credits. These additions may strain the limited number of credits a program may require. In this respect, the current transition to the recognition of the Master in Architecture as the professional degree and the expansion of a minimal full-fledged architectural education to six years, provide practical solutions to the credit problem.

SYLLABI FORMAT OPTIONS FOR THE ADJUNCT SEQUENCE

Plainly, skill and knowledge cannot be weighted out by the pound, and separated from qualitative perceptions, for any but the simplest mechanical problems — and even there it is questionable. Even "judgment," that wise old word, becomes ponderously inhuman unless fertilized by some order of creative spontaneity.
— Norman Potter (1969), p. 23

A first requirement for students is knowledge of how they can best help themselves: in this respect it is useful to understand
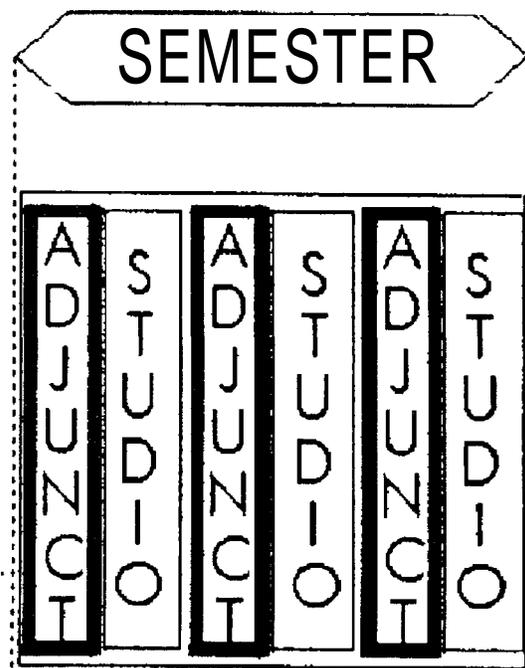
the limits and benefits of an academic situation.
— Norman Potter (1969), p. 25

As part of adjuncts' syllabus design one may adopt existing course contents which, by their nature, may fulfill the objectives of the adjunct. Courses offered under inclusive titles such as *the* design process, human and built environment, building construction or *place, time,* culture indicate a potential to develop syllabus contents suitable for the multi-dimensional objectives of the adjunct courses. This factor, however, will be discussed here only in a tangential manner, since decisions about the nature of theory studies and intensity of design experiences are specific to each school. Our discussion will focus mainly on options for the *adjunct's* syllabus format.

Initially one may consider the following formats:
* the lecture/seminar;
* lecture/seminar and "laboratory";
* "mixed" formats.

Our experience shows that it is fitting to try out all these formats since each particular studio and theory package may require a different adjunct format.

The lecture format seems to be well suited to beginning phases in the program and other phases which require a focused introduction to discursive and translation understanding and means. An *adjunct* syllabus which contains a lecture and laboratory format may provide an enhanced adjunct experience. In principle, the "lab" of the adjunct is the attached design studio. An additional laboratory may easily become a redundant duplication and competition to the design studio experience. One version of the 'mixed' format incorporates the adjunct into the studio as an introduction which sets the stage for the studio activity.[see Fig.1] The advantage of such a structuring is that students are focused, in each part of their study, adjunct and studio, on their work and they experience an intensive learning environment. The drawbacks of such an arrangement include the following:
* students may experience difficulties in absorbing the adjunct material within such a short time frame; and
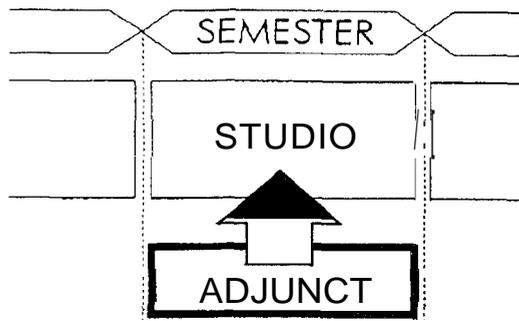* the sequential mode may generate the temptation to reduce the

Fig. 3. Parallel placement of the *adjunct* in relation to the supported design studio.

Fig.4.Diagonal placement of the *adjunct* in relation to the supported design studio.

content of one or both parts of the package, either by changing priorities or by adding to the teaching load of studio faculty.

Another version of the "mixed" format operates in predetermined intervals which fragment the studio's syllabus into mini-*adjuncts* and mini-studios. (see Fig. 2) This version is not necessarily new. The benefit of such a model is the possibility of tightly connecting theory with the design application. However there are significant drawbacks to this approach. Since the design experience is an evolving process which requires the generation of its own inner learning dynamic, repeated interruptions may disrupt the analytical and creative thinking processes. Also, the coordination between these "mixed" formats and theory courses can be difficult to monitor and evaluate.

While the formats may vary, we can distinguish common objectives of the *adjuncts'* syllabi. One shared objective is enabling the translation of theory into design practice. This objective implies a careful selection of the theoretical material and of the design focus the *adjunct* will address. Another common objective is to help students understand and operate descriptive and normative analysis of their knowledge inventory. A third objective is to enable students to apply the analytical means to the evaluation of their own projects, to find substantiated justifications for their opinions and provide them with new insight into their own understanding. Being able to control analysis and justification from a personal position improves students ability to inquire and criticize and, ultimately, foster their self-confidence.

Given the rather unique position the *adjunct* fulfills, one may feel encouraged to offer new interpretations and innovations in the structuring of the syllabus of each format categories. A variety of questions may inspire such experiments:
• what aspects from the relevant but diverse theoretical sources should be emphasized and discussed?
• should theory be transferred using direct communication or "lateral thinking"? and
• should the design orientation of the *adjunct* be addressed in a programmatic setting or as an abstract vision which assembles apparently disparate information in novel combinations with the potential of revealing unanticipated understanding?

Finally, each of these formats warrants acredits allocation of two or three credits. In order to preserve the added-value of the *adjunct's* contribution, whatever format is adopted, the credit allocation for the adjuncts should be in addition to the core allocation of credits dedicated to the design studio.

ALTERNATIVE MODELS FOR THE ADJUNCT'S PLACEMENT IN THE CURRICULUM

The "style" of the interpretation is characterized by the "infinite work" involved in unfolding the horizons of present experiences.
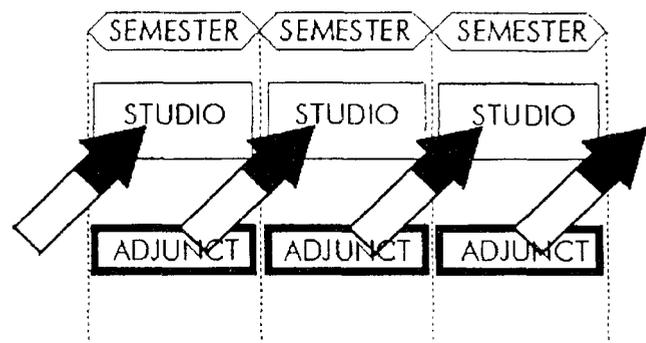
— Paul Ricoeur, (1993), p. 126

The connections of the *adjunct* to the studio may be reflected in a number of ways:
• parallel or diagonal
• "mixed": sequential or fragmented

A parallel placement refers to a connection between *adjunct* and studio that performs in the same term and adopts a tight parallel status. (see Fig. 3)The advantage of such apositioning is in the direct immediacy of the *adjunct* and its application in the studio. The drawback of this arrangement is in the limited reflection time provided to the student. The alternative option is a diagonal or phased coordination in which the *adjunct* is conducted one term prior to the connected studio. (see Fig. 4)This arrangement provides the student with incubation and reflection time to absorb the theoretical discussions developed in the adjunct. The drawback of such a positioning is in its physical separation between *adjunct* and studio which may create difficulties in faculty assignments and coordination between the content of the *adjunct* and the studio experience.

We referred earlier to the "mixed" format which also involves a placement issue. This positioning requires an adequately expanded academic credit line and faculty time commitment. Without these allocations both *adjunct* and design studio will underperform.

Considering the wholeextent of an architectural program, one can argue for introducing a diversified placement: some *adjuncts* and studios connected according to one model, other *adjuncts* and studios according to another. In principle, the diversity of architectural concerns should respond to such an approach. However, we must be aware of some serious problems. The *adjunct* course supports the whole studio population, which is divided into several studio sections, each instructed by a different teacher. In the mixed format, the tight connection between adjunct and studio may strain the ability of *theadjunct* faculty to communicate effectively with the students in the separate studios. Requiringeach studio teacher to also teach the adjunct to his/her section may cause a significant increase in resource investments [faculty time] and acoordination nightmare. It may also produce confusing academic results. The lecture-cum-lab format might require the addition of classroom space to satisfy the specific lab instruction. This request might strain the available space allocations of the school.

Finally, each program needs to consider what level of study is most suitable for adopting the *adjunct* -cum-studio model and whether some parts of the program should perform without the *adjunct.* For example, beginning design studies might not use *adjuncts,* or might adopt a specific model different from the middle level education. Advanced, graduate studios and the final studio may reconsider the most appropriate models and even the need for an *adjunct.* The final studio is one format that architecture programs should consider carefully whether or not to use with an *adjunct.* If the final studio is intended to capture, integrate and highlight all the knowledge and the abilities the student has already acquired, additional enrichments unrelated to the specific individual project may be out of place, confusing and detrimental.

FACULTY COMMITMENT

This is all of a piece with the values propounded by the As: if they, like Rambo, look avant-garde and radical, why then they must be.
— Diane Ghirardo (1989), p. 4717

Design training teaches people how to take risks: research training, how to minimize them."
— John Zeisel (1985), pp. 226-7

The introduction of the adjunct sequence into a program can bring significant changes in the way the program is administered, especially in terms of faculty assignments. In essence, a new category of teachers is introduced: teachers who are well versed in both areas, design and theory, and able to engage in discussions on both ends. Also, they need to be prepared to communicate with fellow faculty teaching the attached design studio and able to share theoretical interests with faculty providing the required and elective theory courses. Collective agreement becomes an important asset without necessarily diminishing the discreet contribution of individual faculty as design instructors. The creation of pedagogical paradigms for each level of learning enables a program to generate an informed evolution of understanding and abilities.

Several important and sensitive questions may emerge right at the beginning of the curriculum discussion. Should the adjunct course and adjunct faculty guide the orientation of the connected studio or viceversa? Should the adjunct faculty be a full member of the team teaching the connected design studio or not? Should only one faculty be responsible for the development of the adjunct's syllabus or should all the faculty related to it, in particular the faculty teaching the connected studio, be also, to some or full extent, involved in the syllabus development?

These questions need to find their answers based on the worldview shared by the faculty of each program.

A FEW PRELIMINARY FINDINGS FROM THE NEBRASKA EXPERIENCE

Sufficient reason is inclusion; in other words, the identity of the event and the predicate.
— G. Deleuze (1993), p. 41

The implementation of the adjunct sequence in our program at the University of Nebraska adopted a diversified approach of syllabi and placements in the curriculum. The Pre-architecture program covers the two first years. Last year, the Visual Literacy courses, required for first year students, adopted the parallel adjunct placement, with a total credit allocation of 5 credits per semester. The adjunct is delivered in a one credit hour lecture format. Second year, fall semester Basic Design studio and spring semester Elements of Architecture studio, each with 3 credit hours are parallel to two Visual Graphics [mainly descriptive geometry representation] courses each with 2 credit hours. There is still discussion in the faculty whether or not these two parallel sequences should be connected in an adjunct relationship.

The professional program extends from the third to sixth year. Each design studio in the first four semesters is supported by an adjunct. The syllabi of the first two adjuncts are partially introducing new knowledge [design process and site analysis respectively] followed by an analysis of projects developed in the studio. The third *adjunct* is focused on translation of technological knowledge acquired in structure and technology courses to develop as analytical tools that are uses to verify technological applications in studio projects. The fourth adjunct focuses on the integrative translation of previously acquired theory. The first part of this adjunct is dedicated to the discussion of design concepts and ideas and the process of comprehensive integration of architectural theory. In the second part of the *adjunct*, design concepts of students' projects are discussed with the intention of bringing analytical understanding to a critical debate on design issues. Currently there are no adjuncts in the fifth year, the assumption being that students have already gained sufficient control of the translation process and are able to work the translation by themselves. However, recent discussions on the performance of students in the fifth year studios have included the possibility of introducing adjuncts in the fifth year as well.

There is consensus in the faculty on the significance and possibilities the *adjunct* offers for the education of our students. There are differences of opinion to what extent the *adjunct* should be divided between the introduction of additional knowledge and development of the student's analytical abilities [translation abilities]. These discussions address questions such as:

- does the student, while progressing throughout the sequence, show improved descriptive and normative analytical ability in narrative and visual terms?;
- is the student able to reiterate by himself in the next adjunct and in studio the instruments acquired in the previous cycle?; and
- does the student demonstrate an improved ability to make choices and decisions in the course of the design process?

Some faculty believe that, as students go through the program, their experiences in the adjuncts may improve their ability to absorb and critically discuss the additional material taught in theory courses. The learning process in the adjuncts' sequence has started to highlight deficiencies in previous adjuncts and studios in clearer terms, which make possible the identification of remedies. A helpful consequence of the introduction of the adjunct sequence has been the enhanced readiness of some design faculty to collaborate in the development of certain adjuncts and even to work together to teach them as a team. Also, the introduction of the adjunct sequence has enabled an easier integration of new faculty into the program and facilitated the revision and clarification of goals and objectives of theory courses and design studios.

The abstract nature of the process and the time span required to undertake an evaluation in real-life conditions prevented us, for the time being, from mapping out visual evidence of performance. Some preferences may be soon identified, as the first cycle of implementation is accomplished. For the time being, evaluation is based on informal exchanges of information between faculty.

The very process of experimentation is, in itself, an exciting opportunity to revise and discuss opinions and findings. One may even view the on-going experimentation as a goal in itself: a continuous process of revision and refinement. In this respect John Dewey [1980 (1934)] offers a supportive opinion: "In as far as the development of an experience is controlled through reference to these immediately felt relations of order and fulfillment, that experience becomes dominantly esthetic in nature." [pg. 50] Yet, we should not forget that both "order " and "fulfillment" may rapidly change in our dynamic culture, forcing us to leave the comforts of the aesthetic enjoyment, to regain control of reasonable doubt and continue our critique.

ACKNOWLEDGMENTS

NOTES

[1] Theory is referred to here in the Classical sense, thecombination of *thea* [the offered appearance] and *horao* [a close view]. This rather broad and ambiguous understanding preserves the inclusiveness of theory, an inclusiveness which responds to the diverse knowledge basis necessary to understand and create architecture. The term *practice* is understood here as the process of transformation of abstract, theoretical knowledge into real life means of implementation.

[2] In its November 3, 1997 issue, *Business* Weekpublished aspecial report entitled: "Blueprints for Business, Recognizing architecture's ability to solve corporate problems, increase the productivity of workers, and boost the bottom line." As a profession we can take pride in the credit this special report is giving us.[This recognition is especially remarkable in view of statistics indicating that only 10% of all buildings erected in the country involve an architect]. In order to continue to expand our market share we need to invest continuously in improving our performance, performance which is based on the rigor and robustness of the professional education. In order to secure basic professional competence, the design discipline at-large and the architectural profession in particular, must support an academic effort which can address both theoretical and applied challenges. Through explorations and experimentation. academia may place itself in the forefront of the discipline by anticipating future challenges. Such a position cannot be achieved through arrogant denial and elitism, but requires concentrated and continuous efforts to identify challenges and problems present in real-life.

[3] The complexity of our vision and design-doing makes it difficult for other disciplines to address, in an informed and critical manner, the intrinsic architectural debates. Their focused disciplinary orientationcontradicts the eclectic, inclusive and integrative nature of design. Evaluations of our education delegated to outside, non-architectural, reviewers , such as the *Boyer Report* (1996), were unable to penetrate our concerns beyond surface generalities. It seems that it remains our own responsibility to conduct incisive criticism of our own activity intended to maintain and improve architectural education and practice.

[4] We can include in this category such groups as the Expressionist movement and the Amsterdam School.

[5] The need for a pluralistic architectural education is a guiding principal for NAAB accreditation and is widely accepted by European organizations such as EAAE.

[6] We should not confuse the adoption of C.A.D. technologies with the understanding of emerging knowledge. Electronic media is a tool whosejustification for academic learning should be based on the extent it helps improve understanding and critical abilities. Improved understanding and abilities to apply current mathematical thinking, multi-dimensional visualization or environmental concerns are more important than the mere skill of operating a computer program.

[7] It is illustrative to refer here to an observation made by Richard Rorty in a discussion on Habermas: "Social purposes are served, just as Habermas says, by finding beautiful ways of harmonizing interests, rather than sublime ways of detaching oneself from others' interests." R.J. Bernstein. ed. [1994] pg. 174.

BIBLIOGRAPHY:

Bernstein, R.J. ed., *Habermas and Modernity.* Cambridge: MIT Press, 1994.

Boyer, L.E. & Mitgang L.D., *Building Community.* Princeton: Carnegie Foundation, 1996.

Deleuze, G., *the fold, LEIBNIZ AND THE BAROQUE.* Minneapolis: Univ. of Minnesota Press, 1993.

Dewey, J.. *Art as Experience.* NewYork: Perigee Books, 1980

Ehrenzweig, A., *The Hidden Order of Art.* Berkeley: Univ. of California Press, 1967.

Ghirardo D., "Authenticity or Rambo Redux," *Architectural Review* no.1109 (1989): 47-7

Nussbaum B., "BLUEPRINTS FOR BUSINESS: Recognizing architecture's ability to solve corporate problems, increase the productivity of workers, and boost the bottom line," in *Business Week,* (1997): 11-3.

Nyman K., "Wittgenstein Meaning Architecture," Tampere, Finland: *Datutop* 10, (1986): 39.

Oakley D., *The Phenomenon of Architecture in Cultures in Change.* Oxford: Pergamon Press, 1970.

Potter N., *What is a Designer: Education and Practice.* London: Studio-Vista, 1969.

Ricoeur P., *Hermeneutics & the Hwnan Sciences.* Paris: Cambridge Univ. Press, 1993.

Schon D., *The Design Studio,* London: RIBA Publ., 1985

Stevens G., *The Reasoning Architect.* New York: McGraw-Hill Publ., 1990.

Zeisel J., *Inquiry by Design.* Cambridge: Cambridge Univ. Press, 1985.