



Integrating Intuitive and Systematic Approach in the Studio

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ABSTRACT

This paper aims to explain the experiment conducted in 4th semester architectural studio incorporating integrated approach to intuitive and systematic studio teaching. After a brief overview of the evolution of architectural teaching, the research delves into the intuitive and systematic studio teaching integration approach as employed in second year studio. This research argues that owing to different learning styles and subjective nature of the design problems in architecture, architectural studios should embed flexibility in both content design and teaching methodologies of a studio. A detailed discussion with images of the works produced and processes adopted, on the content design and methodologies vis- a- vis the second-year studio establishes that an integration of intuitive and systematic approach does augment learning and achieving the set studio objectives.



Introduction

Pedagogy is often understood as the art and science of teaching. The term in this broader meaning refers to strategies and approaches of instruction, including the identification of the 'correct' use of instructive strategies. There is no doubt in the fact that teaching primarily encompasses the transmission of knowledge, the assessment of the recipient's performance and socialization. In addition to teaching; a teacher is expected to play a vital role in counseling, guidance and institute administration as well. (Ezewu, 1983)ⁱ

What may be deemed as good teaching is a harmonious balance of subject knowledge, relevant creative orientation, psychology of learning and of learners and the overall teaching methodology. This is trenchant teaching, essentially meaning, it is instruction that encourages effective learning. It is believed to embed thorough and lasting attainment of knowledge, skills, and values. (Felder & Brent 1999)ⁱⁱ. Trenchant teaching does not only aim to enhance productivity and a wholesome learning experience but also promotes psychological development. This process is, however, only effective when the teacher knows the subject and the recipient (students) and philosophies of education.

Evolution of the Design Studio

History

Architectural education is primarily based around the design studio as the converging point of all knowledge and skill inculcated through the curriculum (Mostafa & Mostafa 2010)ⁱⁱⁱ.

During the last few decades, design education, particularly in the field of architecture design, has been increasingly oriented towards the design studio. The design studio has been described as *the heart of architectural education* (Cuff, 1991)^{iv}, as the *key place for all [design] educational activities* (Vesley 2004)^v,

and as central to the pedagogy of architectural education.

Historically, design was taught through the apprentice-master model; implying that a student was taught under the guidance of an experienced practitioner. In the medieval period, boys in their early teen years, distinctive in their natural talent and intelligence would be offered an apprenticeship in an atelier setting. A workshop, where the master makes, and the apprentice learns by doing. Repetition: by copying classical works was the standard practice of teaching and imbedding skill into the mind of the apprentice. Some years later, when the apprentice was able to display the skill independently, he would be included in the design and construction process. Over the next few years, as Kostof (1977)^{vi} writes, the apprentice would focus on building practical experience, as a journeyman, who travels across places to observe and reflect upon his personal growth. Eventually this period of learning resulted in the apprentice being entrusted with the sole responsibility projects, however small.

The atelier or Beaux Arts model slowly progressed into the modernist model with the advent of Bauhaus. The Bauhaus model introduced a revolutionary systematic method of learning and teaching, this included a formal curriculum and structure of the study, this came as a stark contrast to the fluid, unstructured learning at the heart of the Beaux Arts model. The Bauhaus model recognized the role of the master in the atelier and the tradition of learning that the apprentice and master relationship practiced along and therefore, the position of the master remain largely unchanged. Additionally, the modernist idea focused deeply on the essence of assessment and critique, that it was a time to learn and interact and aided in maintaining the exclusive character of the atelier.

Studio as Atelier and Beyond

The conception of *the studio* in many ways echoes a teaching methodology or *pedagogy* intensely design focused that promotes enculturation and although centered on a project, concerns with integration and creative thinking. Regardless of its form the studio or *the atelier*, provides students' opportunities of incidental and cognizant interaction with their peers and teacher over an extended period. And beyond communication it has engulfed and nurtured a vigorous culture of critique.

The Beaux Arts model represents the earliest academic tradition of architecture and design. Significantly, rather than replacing the apprenticeship model, technical education existed in parallel with it.

The atelier boasted the art of architecture and the vitality in enculturation and socializing while the technical model focused on intricate sophistications in skills and rationality in design.

To separate itself from engineering while retaining its artistic origins and evolve as a professional subject, architecture became one of the first disciplines in design to transcend into learned academics claiming that their primary expertise was *the art of design* (Oswald & Williams 2008)^{vii}. Architecture adopted numerous appropriate teaching methods to maintain this position. The École atelier model transmitted through prevailing thoughts of architectural education as a principle characteristic of this professions needs, wherein the studio became the nucleus of architecture education.

The evolution of the design studio throughout history to present day reflects the gradual move of the pedagogy, from a *romantic* approach of creativity towards a *rationalist* approach. Romanticism; the notion that ideas and creativity originates from the irrational unconscious and that rational deliberation hinders with the creative process and Rationalism; that sees creativity as a process or product generated by a conscious and rational thought process; both represent two historically dominating models of creativity (Sawyer 2006)^{viii}. The rationalist perspective has origins in antiquity, when Aristotle emphasized that conscious work, rationality and deliberation is required to complete creative inspirations.

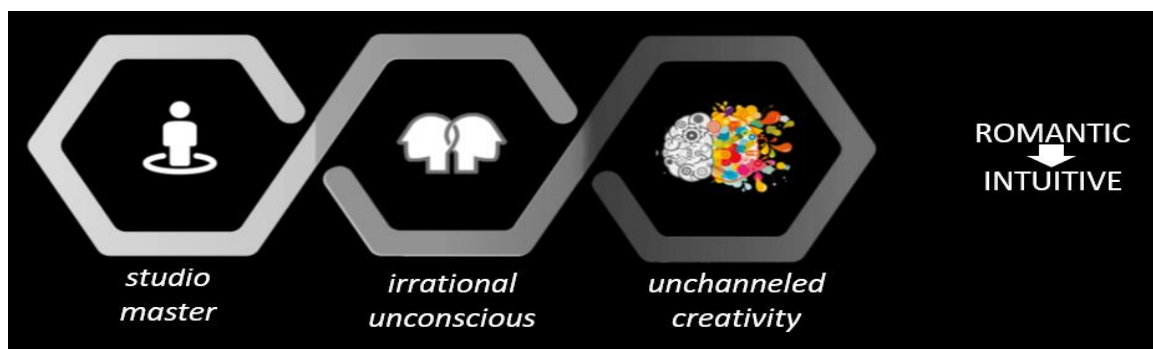


Figure 1: Romantic to Intuitive

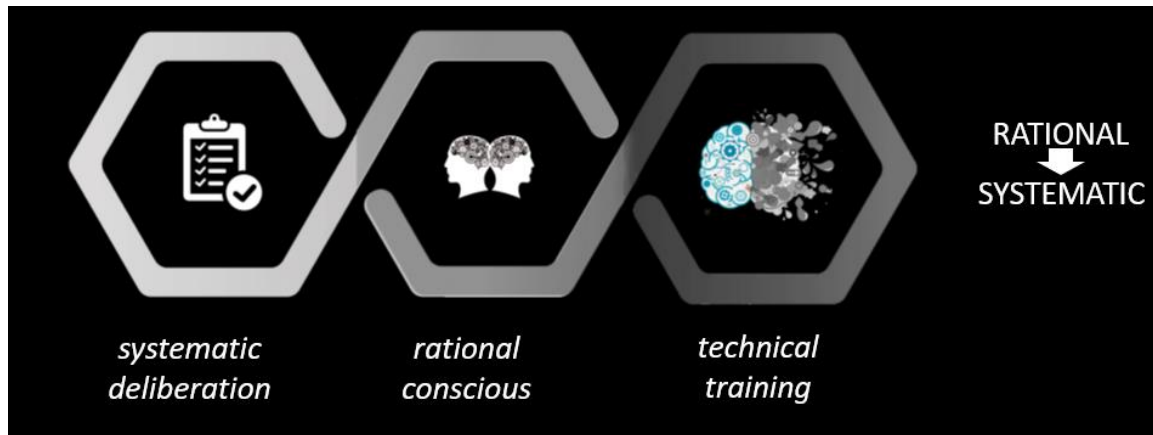


Figure 2: Rational to Systematic

Integrating Intuitive And Systematic

There Are Very Strong Arguments In Favor Of Integrating The Intuitive With The Systematic Approach To Studio Teaching In Architecture. Design Movement Theorists Understand The Need To Maintain Balance Between Creativity And Rationality In The Design Process. (Jones 1992)^{ix} The Studio Structure Must Aim To Re-Conceptualize The Design Process So That Intuition And Systematic Approaches Co-Exist And Do Not Exclude Each Other. Since The 1960s, Many Writers Have Identified The Value Of The Relationship Between Creativity And Rationality In The Design Process. With Innovation Requiring Both Creativity And Rationality, These Concepts Are Mutually Interdependent And Should Not Be Considered As Separate (Kroes 2010)^x.

Incorporating Learning Styles

The Educationists And Education Psychologists Have Identified Various Models For The Design Processes And The Learning Styles. (Mahmoodi 2001)^{xi} It Is Pertinent To Note Here That Architectural Design Studio Is A Milieu Where Various Types Of Learners, Going Through Different Design Processes Are Striving To Understand, Analyze And Synthesize Different Design Problems. Researchers Have Identified Various Learning Domains Of Which Cognitive, Affective And Psychomotor Are Three Basic Domains. Alternately These Domains Are Called Knowledge, Skills And Attitudes. (Bloom, Et Al. 1956)^{xii} The Bloom's Taxonomy Further Divides The Cognitive Domain Into Different Levels.



Figure 3: Division of cognitive domain into different levels as per Bloom's taxonomy

There is different learning style of any learner and comprehensive studies have developed the types into learning models. Myers-Briggs model identifies eight personality types with distinct learning preferences. Myers-Briggs model consider four main domains and identifies extroverted/introverted, sensing/intuitive, thinking/feeling and judgement/perception as core dichotomies to be encountered in learner’s learning styles (Myers, McCaulley, 1986)^{xiii}.

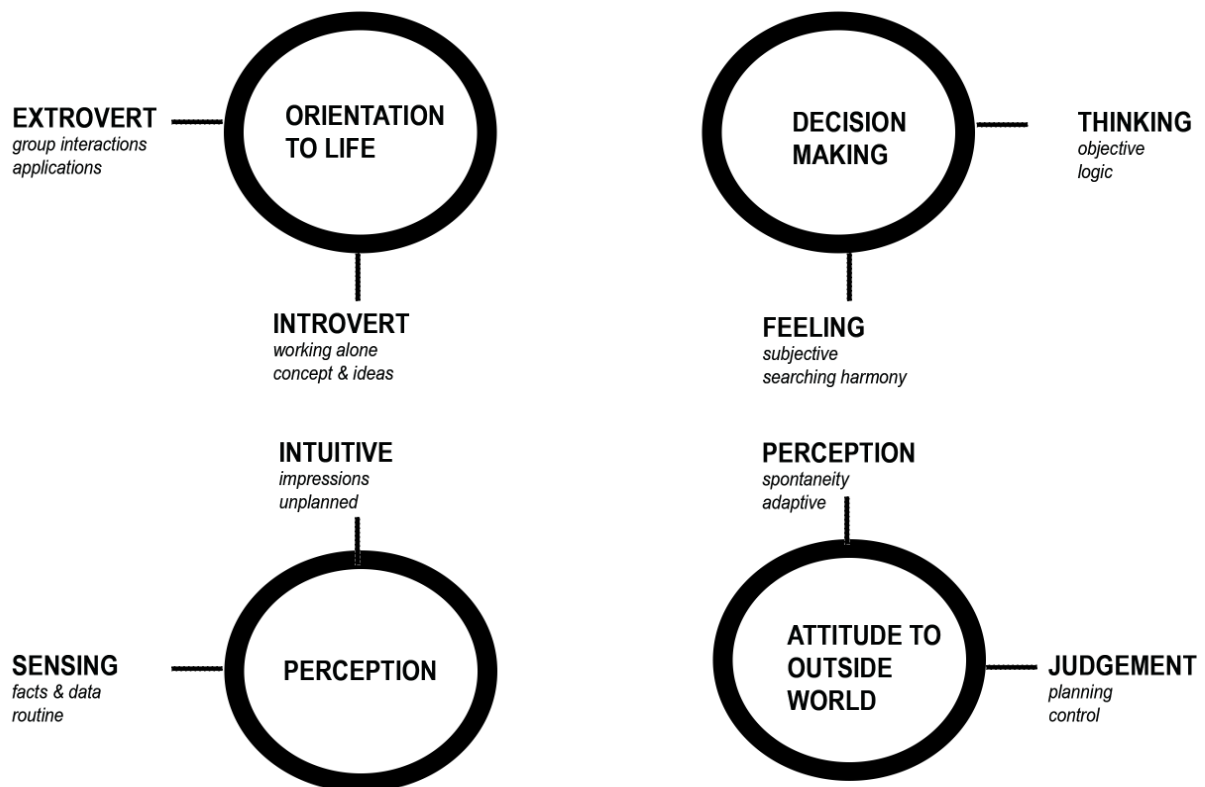


Figure 4: Myers-Briggs learning preferences model

Kolb presents a model in which all four learning domains work simultaneously but with the predominance of one over the other; similar studies also define the role of instructor according to the learning style of the learner (Kolb, 1981)^{xiv}.

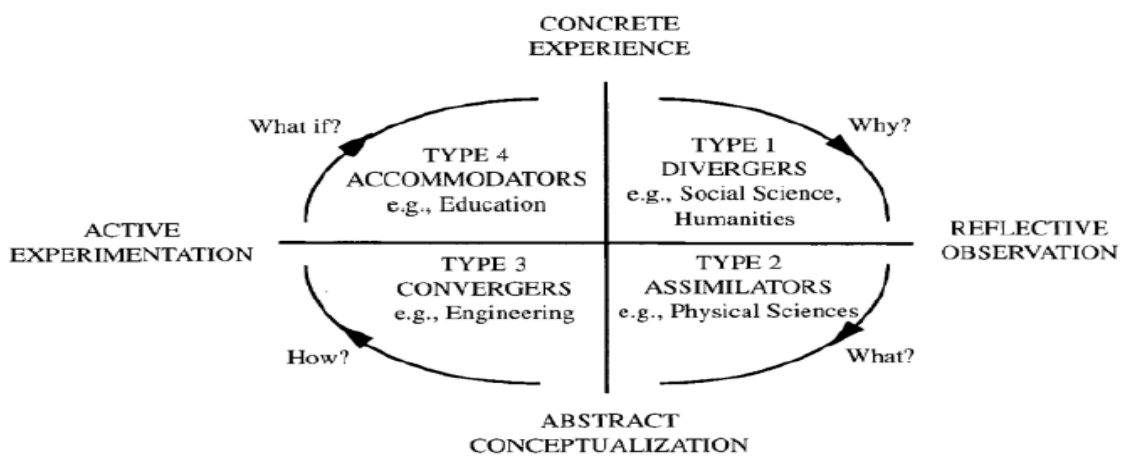


Figure 5: Learning Styles and Learning Cycle Based on Kolb’s Model

Felder –Silverman model further categorizes the learning styles into ten areas where the characteristics are manifest across perception, input, organization, processing and understanding

domains.

Dimension	Range	
PERCEPTION	<u>Sensing</u> Data obtained via senses	<u>Intuitive</u> Symbols
	Facts and observations	Interpretations
INPUT	<u>Visual</u> Charts and pictures	<u>Verbal</u> Spoken word
ORGANIZATION	<u>Inductive</u> Facts and observations	<u>Deductive</u> General principles
PROCESSING	<u>Active</u> Doing something	<u>Reflective</u> Introspective processing
	Group work	Independent work
UNDERSTANDING	<u>Sequential</u> <u>Linear</u> connections	<u>Global</u> <u>Holistic</u> connections
	Small connected chunks	“Big picture”

Table 3. Felder-Silverman Learning Style Dimensions

Figure 6: Felder-Silverman Learning Style Dimensions

The implications of this research on the way an architectural studio is taught are immense. Knowledge assimilation and learning styles vary within a studio to an extent where one method of teaching might not work. This results in students being unable to comprehend design challenges beyond a very basic level; consequently, the output of an architectural studio is either form oriented or graphics oriented. Comprehension, analysis and synthesis of a problem often does not consider the social or environmental or contextual aspects in their entirety. In this regard, characteristics of an intuitive studio such as an interactive studio culture, nurturing the irrational and encouraging unconscious creativity are integrated with a systematic studio structure and plan, rational sequence of the design process and a focus on skill building.

The Case: Semester 3 Design Studio

Structure and Pedagogical Intent

The 16-week design course was planned with phases from the belief that students can better handle smaller decisions, limited in their complexity and volume, than the decision-making process of an entire design assignment.

//HUMAN EXPERIENCE: CORE OF UNDERSTANDING AND CREATING SPACE

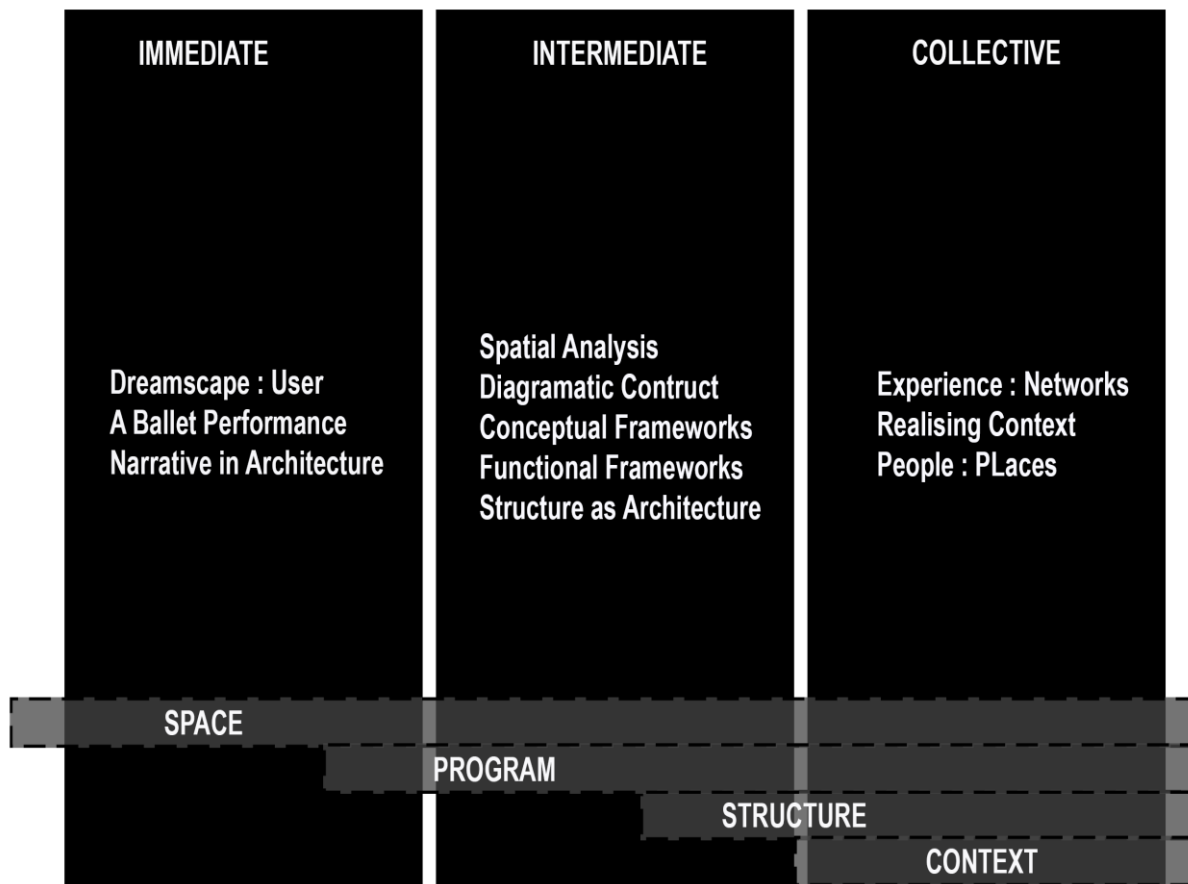


Figure 7: Human Experience: Core of Understanding and Creating Space

The smaller parts combine to achieve the following broader objectives of the studio:

- Develop students' original thinking, designing, presentation and interpretation skills
- Attempt transformation of theoretical knowledge into two- and three-dimensional solutions
- Understand the complex relationship of form, function and context and display the capability of articulating this relationship in resolved designs
- Understand and develop building programs and the forces that play a rudimentary role in program development

The studio introduced core concepts of space planning, program development and structure as integral parts of architecture design and designing with contextual considerations of site and people. The studio team incorporated the design rigor in the process by giving relevant design exercises that worked as background preparation for design projects.

The studio content was designed to sequentially introduce complexity into the design problems to be solved. The space as designed needed to be understood in its immediate, intermediate and collective context. The studio started off with short exercises that encouraged students to delve into their own minds and thoughts and design a hideout for single person. The students were encouraged to develop narratives about the person they were designing the space for. They developed their own setting and own story. In another exercise students were given a poem and a set of symbols. They were to narrate the poem with the help of those symbolic representations. The third exercise was that they were given texts and they had to sketch the kind of spaces they visualized from the text.

Gradually the content of the studio shifted from purely intuitive and introspective to a more systematic approach. The students were asked to design a house for a famous personality. The program needed to be developed by the students after an in-depth study of the characteristics and needs of that personality. Finally, the students were asked to design an inclusive space for women in a real commercial setting with real urban design challenges to analyze and resolve.

The course content encouraged the systematic approach at the planning phase where the outline of the content, learning outcomes, semester schedule and the design exercises were all developed in detail much before the start of the studio. The content of the course was also designed to integrate and awaken the students' intuitive as well as rational design thinking potentials. This integration also encompassed the methodology and sequence of the studio.

Teaching Methodology

Teaching methodology incorporated a conscious decision to

- 1- Recognize the difference in learning styles of the students
- 2- Incorporate rigor into the process to train the minds to focus on the output

Generally, the two projects of a house and an inclusive public space followed the following steps:

1. user profile
2. precedent studies
3. program development
4. site selection & interpretation
5. volumetric studies
6. detailed design

Other strategies incorporated include debates, role play, group discussions and design journal. There was a strict control on the deliverables. The format and deadlines were strictly adhered to. The students were encouraged to explore different aspects of every stage of a project. The teachers prepared exercises or lectures in advance for the studio and executed a studio plan that required extra reading and effort on their part as well.

The studio utilized different design stages to alternate between systematic and intuitive approaches. For example, the information gathering, and processing stage was executed with a sequential, logical steps while schematics, concept formation and detailed design went through a creative process of decision making.

Conclusion

The idiosyncratic nature of the design studio and its culture and the focus placed upon complex, experiential activities suggest that assessment of students' work inevitably becomes subjective. Though evaluation of design generally reflects best teaching practices that have been established in history, it often relies upon the individual assessors' intuitive understanding of creativity and their perspective and aesthetic, subsequently failing to meet the elevated expectations of universities and students for systematic, fair and transparent assessment.

Design will carry its romantic legacy for many centuries ahead and perhaps the very nature of design means that it will always embody a level of subjectivity higher than other disciplines, in both delivery and assessment.

The rationalist framework for teaching and evaluating design upon further development may be combined with redefinition of the intuitive model of conducting a design studio to develop an integrated model of creativity that acknowledges the role of subjective empirical and systematic training. By arriving at a disciplinary agreement of what creativity is, the problems associated with subjectivity and objectivity and the design studio as a contemporary mode for teaching and learning; the objectives of architectural education far and beyond the studio may be achieved. Integration of these models can encourage the students to alternate between different modes of thinking where required. This training is at the core of how we equip our future architects to handle problems like environmental degradation, societal changes etc.

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