

Holistic Approach In Architectural Design Studio With Respect To Allied Subjects

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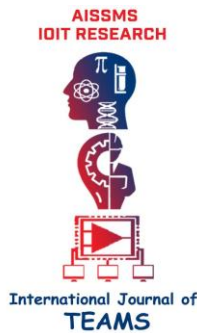
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ABSTRACT

The architectural design studio is a backbone of architecture education for creating future architects. Whereas design studio plays an important role in students' holistic development. To provide the balance and holistic approach towards the design studio Savitribai Phule Pune University (SPPU BOS members) has designed syllabus which sustain the balance between architecture design and other subjects to ensure effectiveness to provide creative and innovative design outcome. The paper will focus on the syllabus of second year which will understand the balance and effectiveness of syllabus with architecture design and allied subjects to achieve the course objective.

Keywords: *Architecture Education, Design Studio, Creativity, Allied subjects, Design Methodology, Blooms Taxonomy*

1. INTRODUCTION

The creative process of design results in usable products. It is a solution to a problem, where the user and use determine the problem. The process of designing in architecture is intricate. It is unending and runs in a loop. It is not an easy technique to follow. The process is typically interactive, meaning that if you complete one stage and move on to the next, you may find that you missed some considerations or requirements that require you to go back to the previous step. There is no clearly established right design process. Frequently, the designer may respond that their decision-making process is guided by "feeling" or "intuition." The foundation of architectural education is design. Different designers employ various design methodologies. Each design presents a unique challenge to the creator. By opening up various design opportunities, the pre-design and design processes help to shape the design outcome. Constraints offer the design process instructions in a more imaginative and

helpful way. Design freedom is wonderful because it allows the designer to explore new ideas and possibilities, but when the designer explores too much, he or she can easily become lost.

Man built most nobly when limitations were at their greatest.

-Frank Lloyd Wright

Understanding the elements that encourage creativity in the design process is crucial for overcoming the limitations and difficulties of the process. Experts concur that it is important to investigate various design limitations during the design process. How the limitations influence the design process and the end product is unclear.

1.1. ARCHITECTURE EDUCATION

The planning studio has traditionally been regarded as the hub of instruction in architectural programmes. The studio serves as a learning environment and is the actual location of teaching and learning, allowing for lively interaction

between instructors and students. The studio is where students go through a shift that affects how they connect to the built environment, to their colleagues, and to their instructors. It is also where academics are enculturated into the profession. Although the studio environment has been touted as the optimum learning environment (Boyer & Mitgang, 1996; Schon, 1987), few studies have focused on the studio's actual physical environment and the social dynamics that follow from the point of view of architecture students. (Groat & Ahrentzen, 1996; Ahrentzen & Anthony, 1993; [1]The significance of the study is based on basically understand the balance and effectiveness of syllabus with architecture design and allied subjects to achieve the course objective This is further illustrated by the (a) approach of Architectural design Studio (b) balance and effectiveness of allied subjects in syllabus (c)achievement of course objective of given syllabus

1.2. DESIGN STUDIO

A key component of every architectural school or curriculum is design studio. Design Studio offers the largest number of credit hours per week and is the most prevalent topic overall within the Bachelor of Architecture programme. The main goal of the Design Studio is to foster students' creativity in the area of design. The planning studio's main use in architectural education began in 1819, when the École des fine arts replaced the French Royal Architectural Academy's traditional atelier system. The Beaux-Arts program's atelier structure sought to improve the students' "artistic" as well as "analytical and structural thinking skills" (Drexler, 1984, p. 92). The Weimar Bauhaus School, established by Walter Gropius in 1918, pioneered a "architectonic approach" to architectural education that included other branches of art and design from a larger perspective. By allowing students the flexibility to express their creativity, inventiveness, and individuality while emphasising three-dimensional vision as opposed to the Academy's two-dimensional compositional approach, the Bauhaus School set itself apart from École des Beaux-Arts (Balamir, 1985, p. 12). According to Walter Gropius, the founder of the Bauhaus, "there is a close relation among all disciplines of arts and craft" (Benton et al., 1975, p. 119). [2]

1.3 STUDIO CULTURE FOR ARCHITECTURE DESIGN AS A SUBJECT:

It is never simple to identify a culture, thus defining the culture of a design studio is a unique practise from other forms of schooling. The architectural studio model has its own culture and ideals that have a similar educational impact to the projects that students actually accomplish. The effects of this culture have been referred to by several academics as the "hidden curriculum" of studio learning, including Thomas Dutton and Kathryn Anthony. The unsaid beliefs, attitudes, and conventions that are a result of both the social dynamics of the classroom and school as well as the course material are referred to as the "hidden curriculum" in basic words (Dutton, 1991). The Studio Culture Redesign 2002 The concepts of the hidden curriculum focus on issues related to the ideology of such knowledge and the social practises that shape students' and teachers' experiences, in contrast to the formal curriculum's emphasis on knowledge (i.e., course content: what should be "covered" and its place in the curriculum). [3]The SPPU syllabus places more emphasis on the studio and allots more time for design because of this.

2. DESIGN AS CORE SUBJECT IN ARCHITECTURE EDUCATION:

The topic with the most credit hours per week in the architecture course is Design Studio. Students in the design studio must demonstrate their technical expertise and creativity to generate original, creative, and professional design solutions. The major goal of Design Studio is to increase students' design creativity and provide them the opportunity to create architectural ideas that should effectively balance related courses like Building Construction & Material, Building Services, computer assisted drawings, etc. Therefore, Design Studio gives architecture students the ability to work in both intuitive and practical situations.

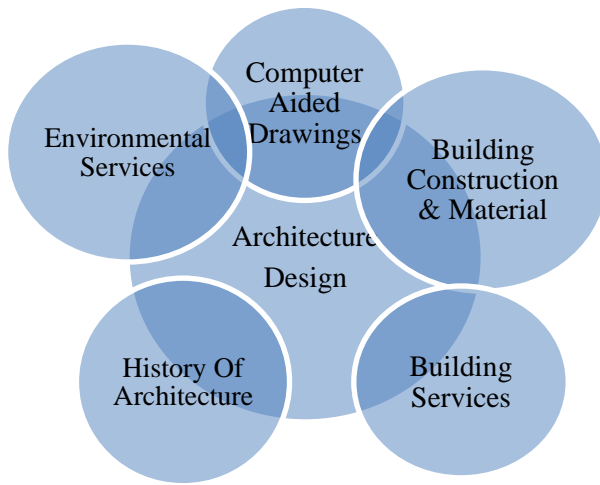


Figure 1 Architectural design subject having effective balance between allied subjects

Source: Author

2.1. ARCHITECTURAL DESIGN PROCESS IN A DESIGN STUDIO:

Process of design is a systematic way of achieving end product. If the design process is followed in systematic way design can be monitor and analyzed in proper way.

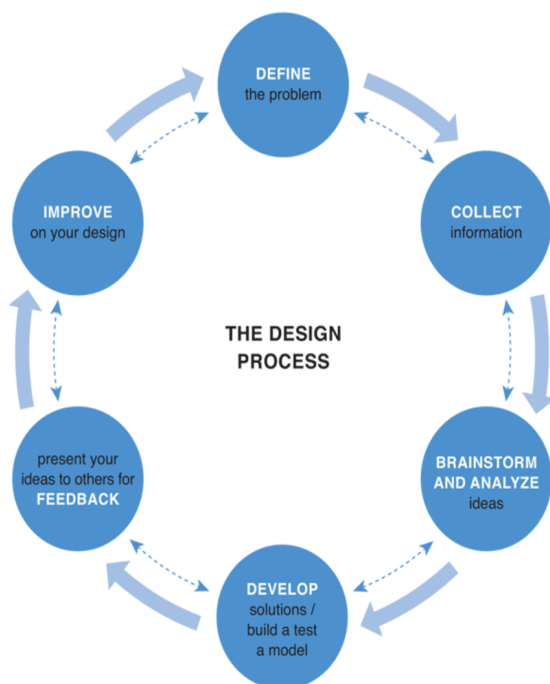


Figure 2 Stages of Architectural Design Process
Source: Author

2.2. LEARNING & WEIGHTAGE OF DESIGN STUDIO IN COMPARISON WITH OTHER SUBJECTS:

Sr. No.	Subjects	Studios	Lectures
1	Architectural Design	6	1
2	Building Construction and Materials	3	2
3	History of Architecture	2	1
4	Building Services	2	2
5	Computer Aides Drawing	3	1
6	Environmental Science	2	1

Table 1 subject wise studios and lectures allotted by SPPU syllabus per week

Source: Author

A one-hour lecture session is included in the Design Studio's seven hours of credit time. The studio critic session and debate lasted a total of 6 hours. The lecture is often delivered by the studio coordinator, an assistant professor, or any other invited guest who has expertise in that specific design project. The purpose of the Design Studio critique session is to make sure that the design program is knowledgeable and meets the objectives of the project.

2.3. COURSE OBJECTIVES OF ARCHITECTURE DESIGN GIVEN BY SPPU SYLLABUS:

Architecture Design	Allied Subjects
Socio-Cultural Aspects	History of Architecture
Aesthetics	Computer Aided Drawings
Anthropometry & Function	
Climate	Environmental Services

Building Material and Construction Technology	Building Material and Construction Technology
Building Services	Building Services
Universal Design	
Precedent Studies	History of Architecture

Table 2 course objectives of design effectively balancing with allied subjects
Source: Author

2.4 RELEVANCE OF KOLB'S CYCLE WITH ARCHITECTURE DESIGN:

The Kolb's theory is a four-staged learning cycle with adequate breadth to serve as a foundation for both the complete design process and each unique cognition learning experience. Additionally, this cycle is democratic and varied, recognising different learning styles. Kolb asserts that if the entire design process is to take place, this full cycle must exist (Kolb 1984). Additionally, because each stage acknowledges various diverse learning styles, Kolb's Cycle is democratic and inclusive by nature. Surprisingly, Kolb's Cycle has only occasionally been used and acknowledged in the field of architectural education, particularly in the area of design process, where it is seen to be of utmost importance. According to Kolb, learning is the process through which knowledge is created out of experience. Knowledge is the result of comprehending experience and transforming it jointly. Kolb contends that learning requires gaining abstract concepts that may be used flexibly in a range of situations. Kolb contends that learning is a continuous process, with each stage influencing and assisting the following. Any point in the cycle can be entered, and it can then be rationally continued from there.

2.5 ARCHITECTURE DESIGN & BLOOMS TAXONOMY

Together with Max Englehart, Edward Furst, Walter Hill, and David Krathwohl, Benjamin Bloom created a framework for categorising educational goals in 1956. Taxonomy of Educational Objectives is the name of the

classification system. The framework created by Bloom and his team was divided into six primary categories. collaborators: knowledge, comprehension, application, analysis, synthesis, and evaluation. Knowledge was included after the category "skills and abilities," with the notion that knowledge was a prerequisite for using these skills and abilities. [2]

Category	Explanation	Learning Outcome of Design Studio
Remember	Recognizing & recalling facts which are taught	For remembering facts and precedent study history of architecture gives the case studies.
Understand	Understanding what the facts means and restructuring the knowledge as per requirement	Understanding the objectives from the precedent studies
Apply	Applying the facts, rules, concept & ideas to resolve the problem	Applying knowledge from various allied subjects such as climate analysis, construction material and techniques
Analyse	Breaking down information in component parts, and critical and creative thinking	Analysis of effective application of knowledge and making decisions

Evaluate	Judging the values of information of ideas, making decisions and conclusions	Evaluating the majors which are suitable for the design and proceed for the final outcome
Create	Combining parts to make new whole, make user oriented architectural form	By understand , applying and evaluating knowledge with respect to all allied subject make a sustainable , user-friendly architectural form.

Table 3 Blooms Taxonomy & Architecture Design Studio

Source: Author

comparing the six levels of Blooms Taxonomy with the six levels of Design Process. First level of Blooms Taxonomy is the **Remembering** and as per the Design Process the first stage of the process is Defining the Design problem and introduction to the document the Design Brief wherein the students are introduced to the design project and the design requirements, thus they are knowing the Design requirements at this stage. The next level of Blooms Taxonomy is **Understanding** which is about gathering facts during the knowledge stage which is similar to the second and the third stage of Design process which is collecting information and Brainstorm and Analyze the information and design requirements. The third level of framework of Blooms Taxonomy i.e., **Application** is about Applying the knowledge and the concepts in the best way possible which is similar to the fourth level of the Design Process i.e., Develop solutions wherein it's expected that the students come up with design solutions and proposals using the information and data collected during the previous stages of the Design process. At the fourth level of Blooms Taxonomy i.e., the **Analysis** Level the learners are expected to be able to analyze the

application, make conclusions, and understand the relationship between the different aspects of the application. At Fifth level of Blooms Taxonomy the learner is expected to **create** new results by planning, designing, developing the actual application and the Sixth Level is about **Evaluating** merit of the idea, bench marking, formulating conclusions. These three levels are comparable to the Fifth and the Sixth stage of Design Process.

2.6 CRITICAL & CREATIVE THINKING IN ARCHITECTURE DESIGN STUDIO:

One type of problem-solving that generally involves a set of actions that must be taken in order to address a design problem is architectural design. (Chan, 1990) Schön (1983) noted that ill-defined problems set the stage for design studio learning. Design studio instruction has a long history in architecture education and has been praised as a model for instruction in other fields. (2000) Boyer and Mitgang Schön added that the studio-based teaching approach may be used to all forms of professional training. In accordance with the goals of architectural education, students should be taught not only to acquire theoretical information but also to creatively apply this knowledge to real-world situations. Design, according to Goldschmidt and Weil (1998), is founded on learning, training, and experience. It is recognised as the result of thought processes. The architectural designer is considering a wide variety of design needs and criteria, including the proposal's formal and aesthetic qualities. (Cross, 1990) According to Schön's idea of reflection in action from 1983, a lot of the fields of science and aesthetic thought from which architectural knowledge originates are still accessible. According to Oxman (1990), the reasoning processes that take place during memory recall and knowledge reconstruction are among the roots of design and may also serve as a foundation for the explanation of creativity. [4]

Every discipline of study, not only Design Studio, benefits from critical thinking. Higher education institutions' responsibilities, in the opinion of Postman and Weingardner (1972), go beyond merely imparting knowledge to students and include training them to evaluate what they learn critically. Letiche (1988) has a similar perspective and advises all students to develop the talent of "learning to learn." According to Anderson (1993), a psychologist, pupils' knowledge is divided into declarative and procedural levels. According to

Anderson, a pupil can only develop critical thinking after acquiring procedural knowledge. When architecture students in Design Studio are able to create brand-new design solutions after learning earlier building types and design solutions, this can be considered evidence of critical thinking. [5]

3. CONCLUSION:

As per designed syllabus of SPPU for second year Architecture design is very apt. as it shows the integrative & holistic approach towards Architecture design with respect to other allied subjects which are very necessary to target the final outcome of design. Comparing course objectives of architecture design with allied subjects and blooms taxonomy is effectively balancing with each other. The Bloom Taxonomy, creativity & critical thinking together with the proposed stages architecture design attributes can be utilized as a checklist towards attaining the course objectives of allied subjects with Architecture design.

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