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RESEARCH ARTICLE

CHANGING TRENDS IN ARCHITECTURAL DESIGN PEDAGOGY

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ABSTRACT

There has been a drastic transition in Architectural education and design pedagogy, from 17th century till current scenario. This paper examines the changes and different models of pedagogy used world over. This is a review paper that analysis and presents the design education in the light of traditional studio approach and Beyond while modelling the new studio typologies. This paper is the part of research on "Rationale of Application of Theory Inputs in Architectural Practice". While the first Paper was "Importance of theory In Architecture".

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INTRODUCTION

Architecture has been approached from four fundamentally different perspectives since the 17th century and they are the craftsman-builder, the academic architect, the civil engineer, and freshly, the social scientist. Generally, Academic-education emphasized on the theories of composition and the traditional principles of formal design. These were acquired in schools or academies, where practicing professors are were teaching. On the other hand, craft training in architecture was progressed at rapid pace. This type of architectural education primarily aimed at training craftsman builders who can erect buildings, instead of making designs to be carried out by others.

The Origin

Ecole des Beaux-Arts: The Ecole des Beaux-Arts was established in France in 17th century. The Ecole was aextension of the Royal Academy of Architecture, founded in 1671, and operated until its closure in 1968.It steadied the concept, that the architect was to be the master designer and the master renderer. This notion buttressed the dominant educational theory: to establish a more intellectual educational program in contrast to vocational training.

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To acquire an educational diploma during the course of any academic year, a student was required to prove his/her skills and complete the following:

The bahuas: The Bauhaus was a craft-based art school. The Bauhaus philosophy echoed the architect as a master designer who would make all design decisions based on a thorough understanding of form, materials, construction, economics, and sociology. The Bauhaus was marked by an anti-academic (anti-Beaux-Arts) attitude from its very beginning, very soon after its inception, the educational ideals of independent craftsmanship were considered impractical and the Bauhaus began to focus on training and educating designers capable of designing for mass production. Despite the modifications made in its system, the principles and beliefs did not change. Its educational system had two components: formal design-aesthetic training and practical-workshop training. Several important and radical modifications were made by the new masters who adopted the teaching process in the Bauhaus. Hence, education here was in two phases: the preliminary course and architectural training. Architectural training included three categories of classes.Bauhaus Diploma was awarded to the student, after the completion of architectural training; the whole program lasted in a span of nine semesters.

The Vkhutemas: Vkhutemas was the Russian counterpart of the Bauhaus and was established in 1920, its program included classes in art and industrial design. It was less well known outside the former Soviet Union but was a much larger school

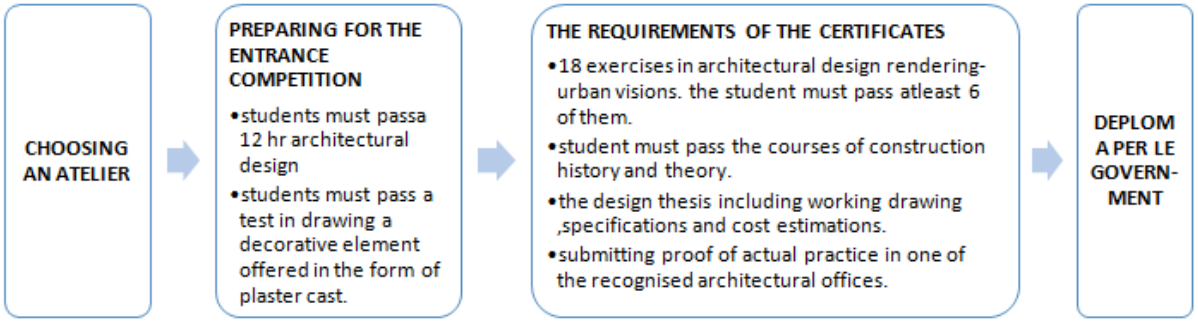

Figure 1. The educational process of Ecole Des Beaux-Arts

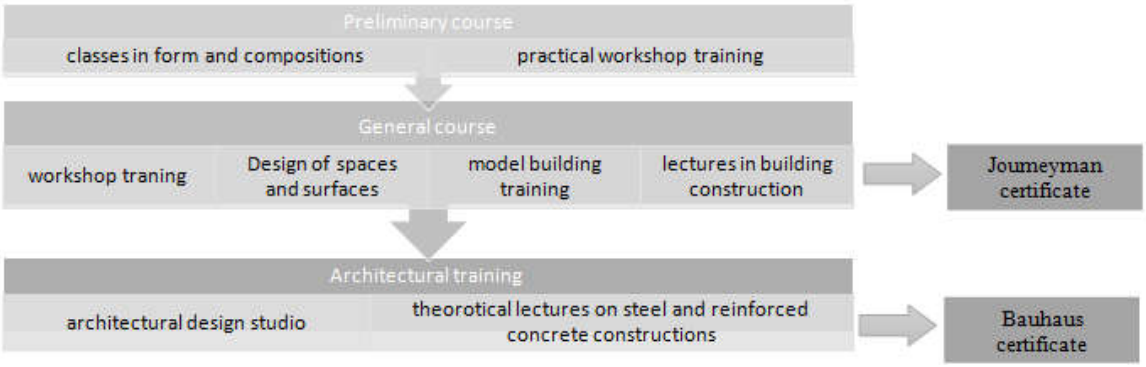

Figure 2. The educational process of the Bauhaus during its early periods

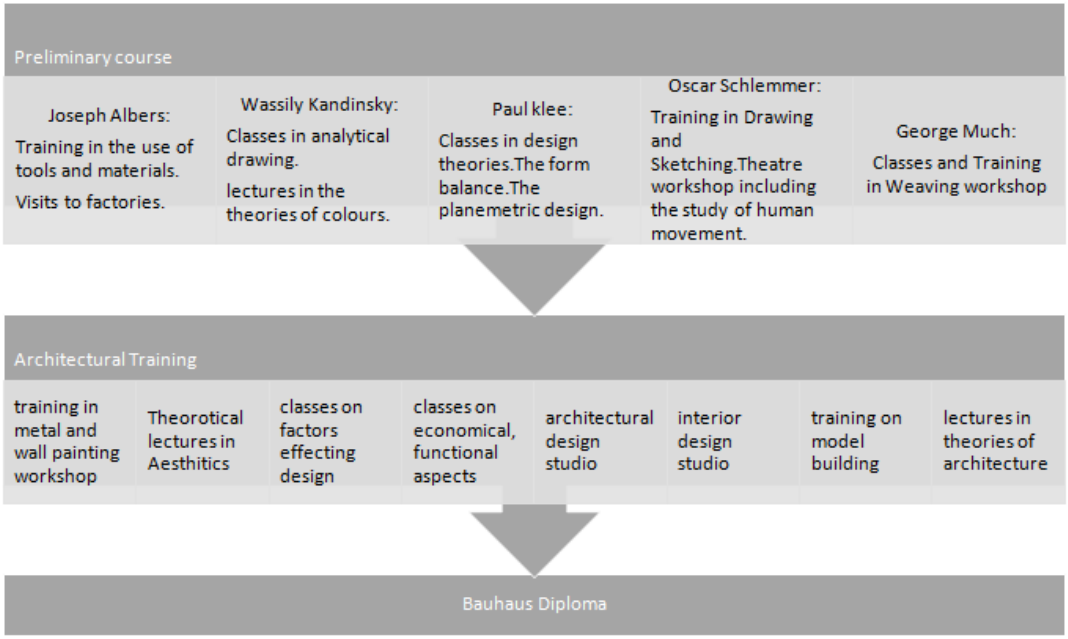

Figure 3. Educational process of Bauhaus after developing the workshops and refining curricula

Figure 5. The process of case problem model

Figure 6. The process of the analogical model

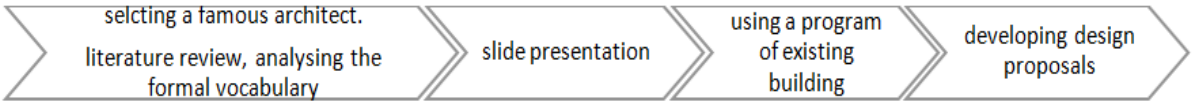

Figure 7. The process of the analogical model (formal vocabulary)

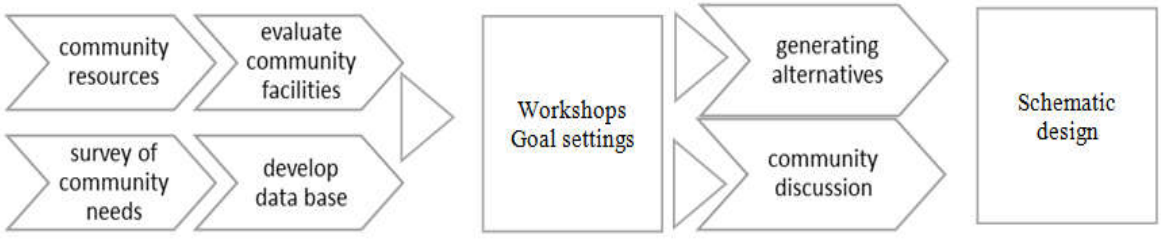

Figure 8. The process of community-based design learning model

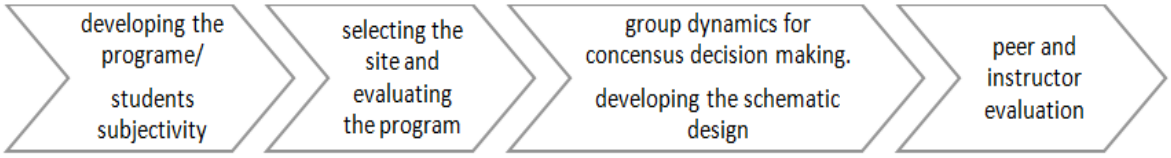

Figure 9. The process of hidden curriculum model

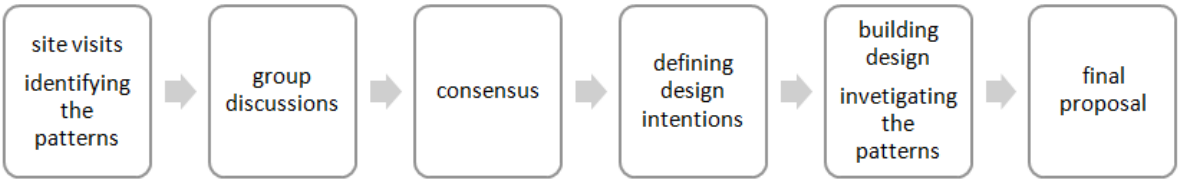

Figure 10. The process of the pattern language model

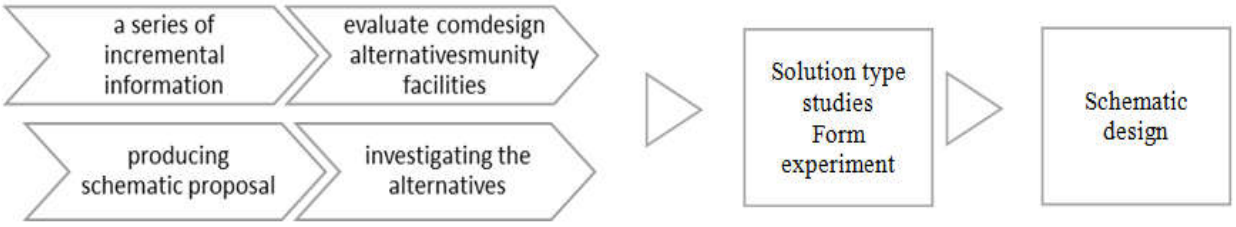

Figure 11. The process of the concept test models

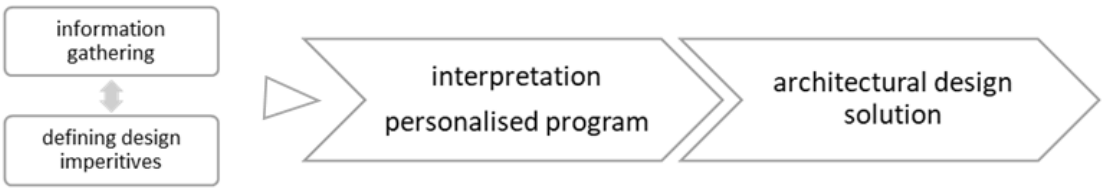

Figure 12. The process of the double layered asymmetrical model

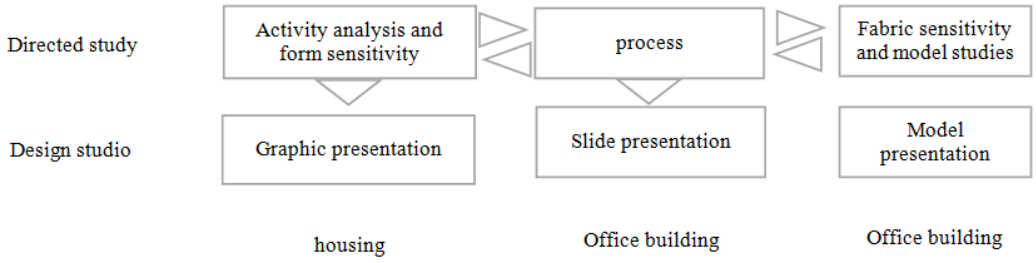

Figure 13. The process of energy conscious model

The case problem model	The analogical model	The community-based design learning model	The hidden curriculum model	The pattern language model	The concept test model	The double layered asymmetrical model	The energy conscious model	The exploratory model	The interactional model
Generating schematic concepts	Studying the analogous	Developing and evaluating available information and sources	Developing and evaluative the program	Identifying the patterns	Establishing design criteria	Information gathering	Providing genetic knowledge about enrgy issues	Problem exploration	Identifying design problems
Establishing multiple criteria	Slide/ graphic presentatio n	Defining the design problems Conducting workshops	Establishing group dynamic	Group discussions/de fining design intentions	Producing schematic alternatives	Defining design imperatives	Simple applications /graphic representati on	Generating verbal and formal ideas	Generating concepts
Evaluation of concepts	Utilising the programme of an existing building	Generating alternatives	Generating discussions/con sensus reaching	Generating alternatives	Investigating the alternatives	Personalizing the program	Providing specific knowledge	Testing the ideas and concepts	Generating and testing new ideas
Reviewing design intentions		Alternative testing/community discussions		Testing the patterns against the alsternatives	Form experiments				Conjecture and analysis phase
Developing design proposals	Developing design proposals	Developing design schematics	Developing design schematics	Developing design proposals	Developing design solutions	Developing design solutions	Developing articulator program component s	Developing articulated program components	Developing design solutions

Figure 14. The process of the explanatory model Source: new trends in design education Ashraf M salama

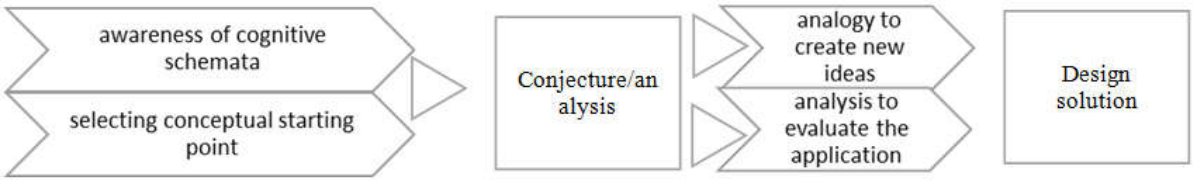

Figure 15. The process of the interactional model

Characterisation of traditionalteaching practices

The content and application of design knowledge	Design process and teaching style	Teaching style an assessing students' performance
•Lack of exposure to user groups •Minor interest in the political context within which buildings are designed •Competence in addressing client needs is given secondary importance •Separation between knowledge and its application on particular design studios •Lack of understanding of politics and ethics •Students emulate star architects with little concern for social issues •Failure to grip the fundamental problems for building technology •Contradiction between theory and practice.	•Design experience is limited to schematic design •Studio setting rarely include any research activity •Design problems are typically well defined •Insufficient opportunities to attain the ability of exploring the nature of design •Design experience is limited to concept formation •The process of problem definition is not well addressed in the studio •The procedures that occur during the actual process of real-life projects are totally different from the route taken in the studio •Too much emphasis on the finished presentation of the schematic design.	•Studio is an independent study rather a learning experience •Studio does not promote learning through generalizations and abstractions •Studio focusses on individual work even though the profession is a result of group work and collaborative efforts. •Evaluating student's performance encourages the view of architecture as a result of individualistic effort •The evaluation system is more evaluative than informative. •Studio is based on desk critique assuming that instructors know how to design •Studio assumes the mastery of the design instructor

Source and reference: study by M.Ashraf Salama

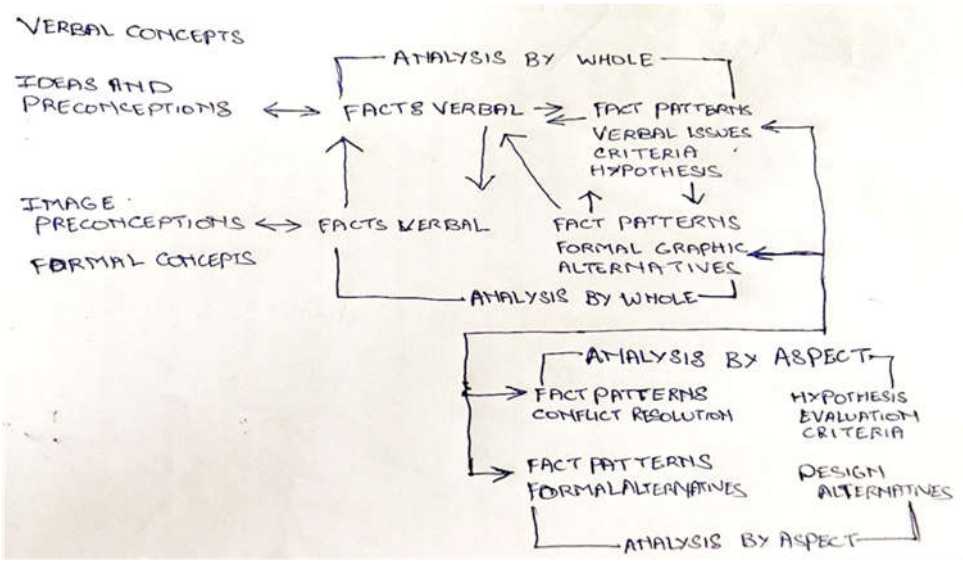

Figure 16. Comparitive analysis of different models

than the Bauhaus. Later the amalgamation of the first and second Moscow Free Art Studios, evolved into a new school that encompassed an art department for training in painting sculpture, and architecture, and an industrial department for training in printing textile, ceramics, woodwork, and metalwork. The school's primary function was to makebuilders and managers for professional-technical education as well as train master artists of the highest qualifications for industry.

The faculty had to prepare a new kind of artists with the ability to work not only in traditional fine arts but also proficient of creating a variety of functional and practical objects for use in the human environment. It contributed to the creation of an original model of design education. Experimenting and teaching, modern painters, sculptors and architects join forces together to develop a concept of aesthetic formation and thus generated one of the most remarkable systems for design pedagogy.

Characterisation of traditional teaching practices

Challenges: Most of the Bauhaus masters had migrated to the United States. This led to the establishment of new departments of architecture in different American universities. These departments with their revolutionary new ideas and theories had a major impact on established departments, which had been influenced by the practices of Beau Arts. Design instruction was based on two models previously discussed, they followed either the principles of classical architecture (Beaux-Arts) or the principles of modern architecture (Bauhaus) their skills in graphics by taking courses. Emerging contemporary issues such as town and regional planning, city planning, urban design, etc aroused questions and challenge the precepts of traditional methodology in the early sixties.

Different forms of dissatisfaction were clearly voiced: many educators, researchers, and theoreticians argue that the profession and its professionals need to be more responsible and responsive to the social and environmental demands of the contemporary society. They also said that the root causes of such professional crises de facto begin in outdated and outmoded educational practices.

Since the design studio is the heart of architectural education, the criticism has been centered on discoursing the contents and processes that characterize the way in which architecture is approached in the design studio and juxtaposing these with the actual practice of architecture.

New Typologies of Design Pedagogy: In a active response to the outdated and increasingly inadequate model of traditional studio pedagogy that cannot effectively address the design needs of contemporary society, a number of alternative pedagogical models have been adopted, developed, and utilized by various educators, The term 'model is used in this analysis to represent a set of rules for choosing procedures; these rules give acceptability to a set of techniques and tools for design activities in the design studio or the learning setting. In response to the needs for improving the systematic process of design promoted by the design methodology movement of the sixties and seventies new models have emerged.

The case problem model: The process starts with generating design concepts. The concepts are evaluated by using multiple criteria. Students are asked to review their design intentions according to this evaluation and develop design proposals.
The evaluation phase represents programming, since the criteria are developed within different types of knowledge.

The analogical model: The process starts with detailed analysis of any comprehensive coherent technical system. The design starts with following a functional/social program of an existing building. Students develop a graphic presentation for the system and analyze its formal implications. The design solutions then developed and produced.

Analogical model (formal Vocabulary): The process starts with selecting three or four famous architects and then analyzing the literature related to them. The task of design starts by following a function/social program of an existing building, and then developing design proposals.

The community-based design learning model: The process of developing the student's awareness begins with identifying the project objectives, conducting a survey of community needs and developing a database.

Students participate with clients/users in workshops to explore the activities and the community goals. Students enter a process of decision making by generating alternatives. The previous steps culminate in developing the design schematics.

The hidden curriculum model: The process begins with developing the program according to the student's subjectivity. Group dynamics are established to reach consensus decision making. The next steps lead to the development of the design solutions, and then evaluating the proposals by the peers and the instructor.

The pattern language model: The process begins with the programming phase which is represented by three steps: site visits, formulating the pattern language, and defining project intentions. The task of designing starts with investigating the patterns. The students concern is to reach consensus while identifying the intentions and develop the final proposals.

The concept test model: Starting point is to produce a schematic proposal where the students realize the need for knowledge, where different alternatives are produced according to the amount of information. Each student tests these alternatives in relation to the information and develops the final design proposal. The phase of acquiring knowledge continues simultaneously with other phases in the process.

The double layered asymmetrical model: The process starts with the programming phase which represents the phase of information gathering and defining design imperatives. The designer's subjectivity enters the process to personalize the program.

The energy conscious model: The process starts by providing students with a body of information about energy issues and their implications in architecture. The students need to conduct site visits and develop their design proposals. It is essential to apply simple to complex issues on different types of buildings in this precess.

The interactional model: The process begins with making the students aware of their cognitive schemata and all the basic principles. They develop a preconceived solution. The conjecture/analysis is used within two processes: the first one is generating ideas through analogy, while the second is examining the application of these ideas by constructive criticism. The final phase is producing the design solution.

The exploratory model: The process consists of analysis by aspect and analysis by whole. Three underlying processes formulate the general process of the model:1) organising ideas and hypothesis 2) studying specific issues 3)testing the ideas in relation to a project content. Each process includes a set of exercises that help explore the design problem.

Outlook: The models are determined by a wide spectrum of pedagogical alignments and inclinations, yet there are some basic and significant similarities in the teaching methods. All the models emphasise the incorporation and application of inherent and acquired knowledge to design situations. Some models promote student motivation as a major conclusion of studio training: each model styles bringing enthusiasm to the studio in its own way. While few models stress on individual and group works, rest focus on developing the students' abilities to differentiate between relevant and irrelevant information at different stages of design. Generally, most models share a number of characteristics in common. There are fundamental differences among design instructors, as each instructor teaches and employs methods according to his/her own ideology and in a manner distinctive from others. This reflects the intricacy intrinsic in design studio teaching practices. Three major understandings that stimulate the development of knowledge-based pedagogy without compromising the design skills and a of future architects include environmental evaluation, establishing design criteria, participatory architecture and collaborative processes.

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