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An analytic study on the traditional studio environments and the use of the constructivist studio in the architectural design education

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Abstract

The architect should be equipped with knowledge of many branches of study and varied kinds of learning. This knowledge is mainly constructed by means of practice and theory (Vitrivius, 1914). Architectural education is considered to be a complex process. Its creative demands must be supported by an understanding of art, science, psychology, mathematics, engineering and etc. The design studio has long been the major component of architectural education. Traditionally it has involved a relatively small group of students under the direction of a studio master, and an instructor. This paper analyzes the characteristics of traditional studio environments, compares it with the constructivist studio in general and recommends a transformation in the design studio.

Keywords; Architectural design education; studio environment; traditional design Studio; constructivism.

1. Introduction:

Learning can be considered as a process that involves the whole experiences of an individual influenced by different factors such as his distinctiveness, educational environment, social environment, skills, abilities, and etc. Although learning is mainly a student-centered, the attitudes of instructors, the curriculum goals and the conditions of the learning environment are also very effective in the process. Thus learning can be defined as the outcome of an individual who is constantly active and interactive with her/his environment. Learning is contextual; it takes place in a social context. Gagne suggests that different internal and external conditions are necessary for each type of learning (Kearsley, 1994). Hence the educational environment has an enormous effect in learning.

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1.1. Architectural education

Onat defines architectural education as a system of efforts that should be implemented individually in order to obtain necessary behavioral development compelled by architectural profession. This behavioral change should be achieved through individual's own experiences; otherwise it could not be permanent. For this reason, practice is extremely important in architectural education (Onat, 1985, p.29).

According to Teymur (2001) there are two purposes of architectural education. The first purpose is the education /training of future architects and the second one is helping to bring up "good, educated, citizens". In the light of these definitions, the theory and the practice of architectural education can be built on a set of parameters that have been derived as much from an intelligent common sense as from the philosophy of education.

1.2. Architectural design education

The architectural curriculum, as distinct from the majority of other disciplines in the university system, is organized with a special, privileged, "core" subject; design. Design is an iterative, decision-making process that produces plans by which resources are converted into products or systems that meet human needs and requirements or solve problems.

Design process can also be defined as a process which involves all activities which can be performed by a designer from the beginning until locating the final solution (Kurt, 1994). This procedure is full of repeated actions which lie between a problem definition and the solution of this problem. It is the research and decision making process that defines the problem to be solved by design. Rittel (1973) asserts that design can be thought of as problem setting -locating, identifying and formulating the problem, its underlying causes, structure and operative dynamics- in such a way that an approach to solving the problem emerges. Architectural programming is a dominating part of this process. Programming is generally viewed as an information processing system setting out design directions that will accommodate the needs of users, the client, the designer or the developer (Sanoff, 1999).

This information contains some basic quantitative data, which includes also constraints or requirements in terms of the production process. Such constraints and requirements guide the design process and shape the manufacturing environments like form features, proximities, adjacencies, dimensions, performance related issues as thermal acoustical or lighting expectations, and etc. (Pham, 1991). Correspondingly the nature of architectural design requires management of multiple levels of information in different stages of the design process. The information created at one phase along the process of design becomes input and constraint to the later stages.

Although the design process consists of regular experimentation, it can be said that architectural curriculum generally has few real variations in different countries (Teymur, 1985). They are variously informed by pedagogic traditions (e.g. Beaux Arts, Bauhaus, etc.), requirements of the profession or the registration boards or the recommendations of the accrediting bodies and, at studio floor, by ever-changing architectural 'doctrines', 'movements', 'languages', 'écoles', 'fashions', graphic innovations and, more recently, the computer.

Kunz & Rittel, (1970) addresses design problems by using argumentation structures to facilitate a discussion amongst the stakeholders about design issues, which allows the problem to be explored and framed. Design issues can entail such varied items as questions, concerns and even discussions about procedural aspects of the design which need to be resolved before progressing. According to Lawson (1980) design problems often define a very wide area and the number of possible solutions is infinite. Unlike the problems of natural sciences, the goal of design is not clearly set and it changes according to the environment it is situated. A designer might ask how, what, and why while setting up the problem and gathering necessary information but they are not the questions that a designer would ask to solve a design problem. As a result, the ultimate design solution is vague and very difficult to achieve. Rittel (1984) expounded on the nature of ill-defined design and planning problems which he termed "wicked" (i.e., messy, circular, aggressive) to contrast against the relatively "tame" problems of mathematics, chess,