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A comparative analysis of methods for triggering "creative thinking" in design studios

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Abstract

"Design Studio" is acknowledged as the core course for "spatial design" in both architecture and interior architecture education. The main idea of the design studio is based on uniting all the gathered information from other classes in a context of an architectural project. The key expectation from the studio is to teach 'how to think creatively'. This paper, particularly concentrates on interior architecture education. Design studios in Turkey, mostly use what is referred as the "contextual model" which starts with a given problem/ situation and proceeds from that given context. During the process of this approach, the instructor guides the student, discusses space generation and corrects technical mistakes. Taking "creative thinking" into consideration, it is important to constitute another model, which is referred as the "conceptual model". This process starts with student's thoughts triggered by chosen materials, and the instructor communicates through abstract and intellectual thinking, discusses idea generation and, corrects technical mistakes. In this paper, the method of comparative analysis is used to examine the advantages and disadvantages of each above mentioned design studio model. The comparison of models is done by criteria derived from Salama's (1995) survey about the current situation in design studios. As a result of the study it is observed that, both models have some advantages and disadvantages regarding seven excogitated design studio criteria.

Keywords: design education, design studio, creative thinking, ınterior architecture.

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1. Introduction

Spatial design, which covers both architecture and interior architecture is realized through a design process. Since it is a branch of the design discipline, the education of spatial design includes both art and science, therefore it should be differentiated from other types of education. Design studio is the core subject in architectural education and thereby, it is expected that the entire education system is constructed around the studio (Ibrahim & Utaberta, 2012). The study of Ibrahim and Utaberta (2012) claims that, the main purpose of the design studio is to combine other given courses in architectural education. Actually, the main objective of the design studio is not only to combine all gathered information but at the same time to teach the design process.

In order to analyze spatial design education, it is essential to be familiar with the historical developments, which affect the architecture discipline. Since 17th century, architecture is criticized with four main aspects which are; academic, craftsmanship, civil engineering and sociology (Salama, 1995). According to Salama (1995), the academic approach is based on compositional theory and traditional principles of formal design; whereas, the craftsman training has emphasis on constructing the building itself more than designing it. The technological approach is more concerned about the applications of scientific principle based solutions to problems. On the other hand, sociological approach concentrates on connecting the building design with the user. In addition to their presence for the architectural criticism, the above mentioned aspects are also reflected on the design education as; training in academic, craft, technological and sociological fields (Salama, 1995). The 'conventional method', as Salama defined in his book (1995), began with the formal spatial design education which may be examined under the two headings; Beaux-Art arose in France and Bauhaus established in Germany (Salama, 1995). These two models of education differ from each other in terms of their design approaches.

This paper, aims to evaluate the 'commonly applied design studio' approach and an 'experimented conceptual design studio' model in a critical way. The methodology is determined as the comparative analysis of both mentioned design studio approaches. The scope of this study is limited to the analysis of Beaux-Art and Bauhaus education systems as commonly applied design studio model and as to an experimented conceptual design studio model, one of the design studio education at Çankaya University in the department of Interior Architecture in 2013-2014 Fall Semester is used. The evaluation criteria for the analysis are defined with respect to the survey, conducted by Ashraf Salama, which is reviewed in his book "New Trends in Architectural Education" published in 1995 (p.67-74).

2. Models of spatial design

Models of spatial design are reviewed under three main headings which are; traditional models, contextual model and conceptual model. The traditional models consist of both Ecole des Beaux-Arts and Bauhaus education systems. Contextual model is considered as the interpretation of traditional models with technological and sociological aspects. The experimented design studio at Çankaya University is referred as the conceptual model.

2.1. Traditional models

2.1.1. Ecole des Beaux-Arts educational model (1816 – 1968)

According to Omer Akın (1983), formal architectural education started with Beaux-Art model which was developed in 1816. This model is formed to respond to this period's value system and governmental tendencies as well as to support classical architecture. It is also the first system where

the notion of "studio" (atelier) developed (Salama, 1995). The "atelier" embraced the spirit of the Beaux-Art tradition. In order to enter to this school; the applicants took a twelve hour competition regarding design and decorative drawing. Then, successful applicants chose an "atelier" which would provide a home base for their education. There were 50 to 100 students per atelier, which the "master" visited for two hours per week to give an assignment and declare the expected goals. The "senior" student explained the given task to the freshmen. Evaluation was done through drawings of assignments or sometimes verbal presentations (Calhain, 1979 p.7). After the World War I, Bauhaus emerged as a modern approach to meet the needs and necessities stemmed from the industrial revolution.

2.1.2. Bauhaus educational model (1919 - 1933)

Bauhaus School was established with the aim to take back the architect's - or designer's – control over the design decisions (Akın, 1983) and remove the barrier between the 'artist' and the 'craftsman' (Salama, 1995). Form, materials, construction, economics and sociology were accepted as key parameters in order to make design decisions (Akın, 1983). Bauhaus education was consisted of three main parts, which were basic art education, technical training, and structural training (Wilfort, 1984). The first two phases included form and composition, practical workshops, spatial and surface design, and building construction courses, in which successful students received a certificate of "journeyman". The Bauhaus certificate was given if the student took architectural design studio courses, as well as theoretical and construction courses (Salama, 1995). After several changes in management which transformed the education system, the three-staged system was converted into two-staged system. The first phase was the combination of two phases which were basic art education and technical training. The second Stage was added as, architecture, construction and theoretical training courses, together with interior design studio and architectural theory courses (Witford, 1984). Bauhaus education differs from the Ecole des Beaux-Arts', by its actively involved, free student rather than passive classical arrangements (Uluoglu, 1990).

2.2. Contextual model

Between 1935 and 1965 education of spatial design was divided into two types. The first type proceeds through two models (1) Beaux-Art and (2) Bauhaus, which can be called as 'traditional or conventional' models. Whereas, in the second type; students dealt with design in an increasing complexity and more realistic problems. The technological and sociological aspects are also taken into consideration as well as the principles of classical architecture (Beaux-Art) or with modern architecture (Bauhaus) (Salama, 1995). This type can be named as the 'interpreted traditional' models. Although when examined individually, all widely ranged design studio models and their content may vary from one another, in contemporary spatial design studio understanding, the interpreted traditional model of education is demonstrated through a sense of continuity when evaluated from an overall perspective. Thereby, the effect of interpreted traditional model can still be spotted in the current systems of design studio education.

The education of interior architecture is nourished from architectural education and follows a similar path. With regard to the information given above; in Turkey, second type education model is applied. In the scope of this paper, the second type is considered as *"contextual model*". This model starts with a given problem/ situation and a project (in interior architecture design studio) or site (in architectural design studio), and proceeds from that given context. The student is expected to gather information about the context, user, necessary floor area and existing spaces. The second step is to analyse the gathered information like forming an architectural program, or pointing out some problems about the context that has been applied before. The synthesis is more like combining personal ideas with the gathered data about the context. The interpretation of the synthesis is where the sketches are discussed and evolved through a form with the guidance of the instructor. The final

step is dealing with the project. During this process, the instructor guides the student, discusses spatial generation and corrects technical mistakes in the context of the user and the function and the form itself (see Figure.1).

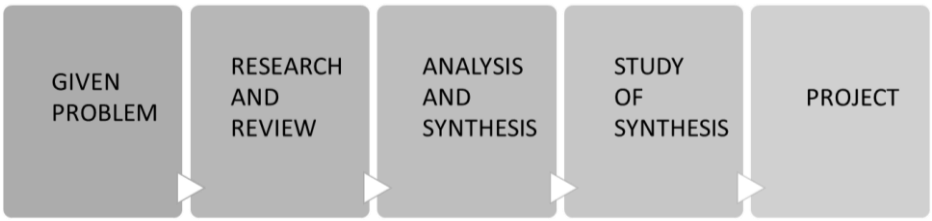

Figure 1. Contextual model process

2.3. Conceptual model- as the experimented in Cankaya University

In Çankaya University, in the academic year of 2013-2014, a non-contextual approach was tried to be applied in the design studio. The studio model was structured on creative thinking. According to the definition; 'creativity' is the new bonds between different gathered information which were not linked previously (Rawlinson, 1995). In the study "The Neurobiology of Genius" of Andreasen (2011), creativity is explained in neurobiological terms. Andreasen examines different approaches of thinking while explaining "creative thinking". The author classifies the thinking process that is used in daily life, and defines it as a deliberate and orderly thinking action. This kind of thinking is usually triggered by external stimulus (a question or a reminder), and the brain consciously performs an action which leads to time sequential or event sequential thinking. Andreasen also defines self-organized thinking as the free association, since each multiplying idea evokes an uncontrolled and unexpected combination. This combination, establishes links between non-related objects, symbols, words, and memories which, as a consequence, leads to a completely new and original link.

As mentioned above; the definitions of creativity and free association overlap in a cognitive way. Regarding these scientific studies, in the Interior Design Studio in Cankaya University, which was structured as a vertical studio, rather than the commonly applied contextual model, a different method was tried. This process starts with student's thoughts triggered by a chosen material, without any given context. The trigger might be a musical piece or an abstract art piece, which might not lead to a known form but only to feelings or memories of the individual. Then, the student is asked to discover his/her own feelings or memories and come up with notions or "key words" to describe them. At the third stage, student is asked to reflect the keyword(s) as two or three dimensional expressions. These expression compositions can be forms of art (painting or sculpture) or sketches. The forth step is rationalizing the expression by using geometry or other composition tools (learned in basic design studio) to objectify the feeling; from notion to form. Finally, the context of the project is given and students are asked to use the form derived from their previous studies, to design the given space. Within the process, the instructor communicates with the student in a philosophical way, discusses idea generation and corrects technical mistakes (see Fig.2).

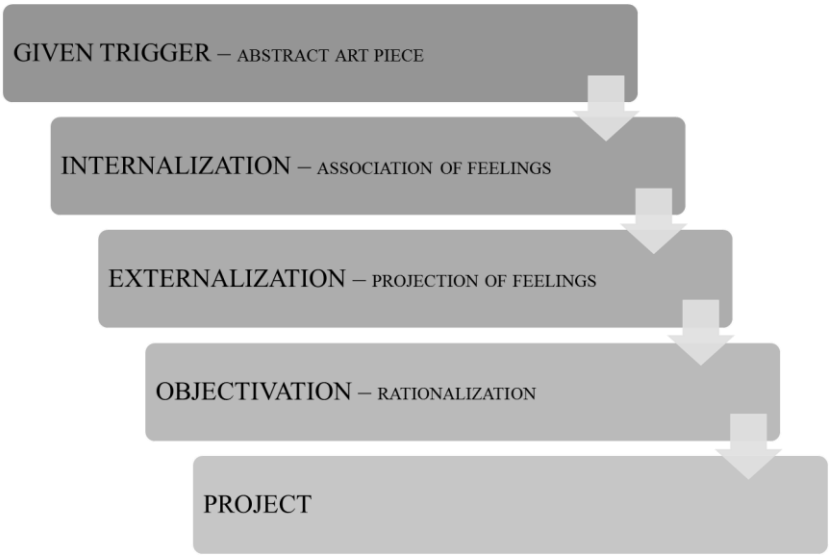

Figure 2. Conceptual model process.

3. Comparison of contextual and conceptual models

The criteria for the comparison is derived from the above mentioned survey of Salama (1995) which focuses on the problems of the current design education with the main concerns taken into consideration and both of the models are analysed accordingly (see Table 1). The survey was conducted in 1994, and applied to 75 design studio instructors from 28 school of architecture in 13 different countries. It discusses and analyses the consequences of the conventional models within the current situation (Salama, 1995).

In respect to *creativity*, it is observed that, while contextual model manipulates the formal configuration, conceptual model, evokes feelings and memories of the individual. Regarding this fact, the conceptual model can be considered as a more creative process. As to the *knowledge* criterion, both models have the gap between knowledge and application such as the lack of political, technical, economic, and climatic aspects. From the *skills* perspective, the contextual model has more focus on architectural communication through drawings rather than verbal communication, whereas the conceptual model has emphasis on creative abilities. When the *design process approach* is taken into consideration, contextual model can be defined as problem oriented since it gives more importance to problem identification. On the other hand, the conceptual model is solution oriented because, providing a solution is considered as a priority. The method for *introducing the project* differs from one model to another. Since, contextual models begin with the evaluation of building and/or formation of architectural programme while the conceptual model starts with an abstract art work. The major difference between the two models appears in *reaching to objectives* criterion. The contextual model stresses on different objectives since it has multiple aspects to discuss during the design process. On the other hand, the conceptual model has priority on single objective which is gaining experience on design process. As to the final criterion *response rate,* none of the models has measurability since design is an intuitive process with subjective solutions.

Table 1. Comparison of contextual design studio model and conceptual design studio model according to excogitated design studio evaluation criteria

EVALUATION CRITERIA	CONTEXTUAL DESIGN STUDIO *	CONCEPTUAL DESIGN STUDIO (CANKAYA UNIVERSITY TRIAL)
CREATIVITY	▪ MANIPULATING FORMAL CONFIGURATION (DESIGN IS AN ART)	▪ MANIPULATING PERSONAL FEELINGS OR MEMORIES (DESIGN IS BOTH ART AND SCIENCE)
KNOWLEDGE	▪ LACK OF KNOWLEDGE OF REALITIES ▪ KNOWLEDGE IS OVERSIMPLIFIED ▪ THE GAP BETWEEN KNOWLEDGE AND APPLICATION (POLITIC, ECONOMIC, TECHNICAL, CLIMATIC ASPECTS ARE IGNORED)	▪ THE GAP BETWEEN KNOWLEDGE AND APPLICATION (POLITIC, ECONOMIC, TECHNICAL, CLIMATIC ASPECTS ARE IGNORED)
SKILLS	▪ FOCUS ON ISSUES IMPORTANT TO ARCHITECT RATHER THAN CLIENTS AND USERS (DRAWING SKILLS ARE IMPORTANT THAN VERBAL PRESENTATION)	▪ FOCUS ON CREATIVITY RATHER THAN CLENTS (CREATIVE SKILLS ARE IMPORTANT THAN VERBAL PRESENTATION)
DESIGN PROCESS APPROACH	▪ LIMITED CONCEPT FORMATION AND SCHEMATIC DESIGN (IDENTIFYING DESIGN PROBLEM IS MORE IMPORTANT THAN DEVELOPING CONCEPT TOWARDS SOLUTION)	▪ DEVELOPING CONCEPT TOWARD A SOLUTION (IDENTIFYING DESIGN PROBLEM IS LESS IMPORTANT)
INTRODUCTION OF PROJECT	▪ DO NOT HAVE A CLEAR IDEA OF HOW TO INTRODUCE RESEARCH IN THE STUDIO (BUILDING EVALUATION AND PROGRAMMATIC CONCERNS)	▪ CLEAR IDEA OF HOW TO INTRODUCE RESEARCH IN THE STUDIO (ABSTRACT ART WORK THROUGH BUILDING EVALUATION)
REACHING TO OBJECTIVES	▪ INCONSISTENCE REGARDING IDEOLOGIES AND WHAT TO DO TO ACHIEVE BELIEFS (DIFFERING OBJECTIVES AS TO MULTIPLE ASPECTS)	▪ CONSISTANCE REGARDING IDEOLOGY (SINGLE OBJECTIVE OF DESIGN PROCESS)
RESPONSE RATE	▪ TEACHING PRACTICE TO BE AN INTUITIVE PROCESS BASED ON SUBJECTIVE AND PERSONAL FEELINGS (NON-RESPONSE RATE)	▪ TEACHING PRACTICE TO BE AN INTUITIVE PROCESS BASED ON SUBJECTIVE AND PERSONAL FEELINGS (NON-RESPONSE RATE)

4. Conclusion

As a result of the study it is observed that, both models have some advantages and disadvantages. By the analysis of the excogitated design studio evaluation criteria, it is found that, the conceptual model seems more advantageous in terms of creativity, introducing the project and reaching the objectives. Both of the models have disadvantages regarding knowledge, skills and response rate criteria. Regarding design process approach, the two models display totally contrasting strategies, yet both of them can be considered as constructive systems. This analysis showed that, it might be better to use both of the models concurrently for a third model. As for future studies, the application of both

* The reference for the results of "the survey of architectural design instructors" as to the findings of "contextual design studio", can be found in the study of Salama,1995, p.74

models to crowded participation groups in a non-biased experimental design studio can be considered.

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