ANALYSIS OF ARCHITECTURE CURRICULA IN TERMS OF CREATIVITY

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Introduction

A number of architecture schools have recently speeded up the efforts for determining and resolving the problems in architectural education. Naturally it is not possible to talk about an "ideal" solution for the ones who believe in that there is not any exact solution.

Efforts for creativity and the relation between creativity and education have a privileged place in all studies about architectural education. Relations are recently being established with other disciplines about how and with what techniques and processes the architecture skill can express itself in terms of creativity. Therefore, the student profile taught about the limited teaching techniques used in architectural education is under a constant change. The old student profile is being superseded by the new student profile expected to find the way to express itself on its own.

All opinions in such an environment of change support comprehensive researches about design studios that have always been considered as a focal point in the architectural education. Moreover, efforts are also ongoing in order to research about the basic design studios covering design principles, and issues such as creativity, perception and sensation. As stated by Schön (1984), the design education lectures are considered as the most important in the architecture curriculum and therefore, design lectures and activities supporting these lectures are considered as environments where students can express their creativity.

Despite all these positivist opinions, the students studying architectural design are required to design products for today's architecture practice and develop design education strategies for the perception of creative ideas in such designs. It is difficult to ignore the problem of determining whether the education institutions in Turkey are successful in this regard.

This study examines the place and scope of activities focusing on creativity in architectural design education curriculum. An analysis is made on creativity oriented design education process by taking into consideration the contents and hours of lectures on practice and theory. The analysis made to ensure that the study achieves its purpose includes an examination on design lectures. The design lectures supported with creativity activities should be provided to the students with practices and theoretical infrastructure. Therefore, it is important to plan practices, lectures and activities that will contribute to the development of creativity in the curricula of several schools.

The study has a diversity aspect since the analyzed architecture schools have different visions and missions. This will draw attention to the design lectures that will contribute to creativity at different architecture schools in Turkey and the lecture hours.

Creativity in Design Education

Today any element from the designed products to lifestyles is seen as a part of creativity and the designed object, discourse or multiple ideas are evaluated

in this context. Such a centralization regarding creativity requires the examination of the education institutions stating that they have concerns about creativity, the curricula of these institutions and the approaches and working methods supporting such curricula. The architectural education like any work that is created and includes concerns about creativity has a self-operating, creative mechanism. Therefore, any subject including design sociology, philosophy and education psychology is considered to be of great importance to define creativity in the criticisms regarding the creative design and the products created afterwards in the architectural education.

As is well known, the myth that creativity is innate is no longer accepted and the efforts have already been initiated in order to improve the creativity and design skills positively for the students (Teymur, 1998). Denel (1981) states that these skills are innate in students and it is a mistake to consider only thinking and such skills as sufficient for architectural design education, thus supporting the first opinion. According to Denel, the difference between the students in terms of creativity is defined as some students to have a more powerful and enriched knowledge or a more powerful perception compared to other students. Hadid (2000) defines this learning or creation process as a personal action that takes place in long period of time and has its own creation method.

However, it will be beneficial to take into consideration the following two problems when examining the creativity concept in terms of architectural design practice and education:

- First, design and creativity concepts are not problems required to be solved only in the context of generation of works but should also be considered as complementing each other in terms of design education and examined to determine how they will be used to increase the performances of the students.
- Second, opinions on architecture practice do not simultaneously have the same direction in Turkey and in other countries (even though this problem is minimized thanks to the opportunities provided by technology). Tanyeli (1997) defines the current period as living in “the best of all possible worlds” as stated by Leibniz. According to this opinion, the world is not good or bad but is the only potential world and a person role is just to adapt itself to this world.

Goldschmidt (1994) observed that there are different stages and methods in creative thinking that develop individuals and are used to achieve results. Observations reveal that situations and environments such as intensive thinking, motivation, creating a number of sketches repeating each other are effective factors for people to find creative solutions (Kahvecioğlu, 2001). Besides, all efforts in architectural design education seem to be lined up on a “holy creativity line” created with the efforts of students to develop their creativity. Certainly there should be a goal required to be achieved at the end of the line and one should have the instruments used for this goal. According to Feigenberg (1991) as mentioned in the quote from Piaget, this goal is to raise individuals that

- have the skill to create new things that do not repeat what previous generations did;
- do not accept everything offered to them and think critically.

It is not possible to think the creativity and design actions in architectural education as independent things. If considered from this aspect, that the creativity concept is revealed with design studios in architectural design education in the chronological order is a powerful indicator that supports the duality of creativity-design activities. Uluoğlu (1990) states that the evaluation of the architectural education with systematic methods is possible with the unification of practice and theory in design studios.

The union of practices and theories in design studios has rendered many elements such as the studios where design is experienced, methods used, the communication between the consultee and consultant and student psychology inseparable. Design studios are defined as places where architecture students spend most of their time and learn the design methods by Shoshi and Oxman (2000).

In parallel with this, different methods were developed and are being developed from time to time based on the preferences of design lecturers. For instance, the part based approach where students are presented with a functional problem and try a design on the same and divide the problem into small parts and take into consideration each part separately is considered as an approach based on basic design education and supporting abstract works (Ertürk, Usta, Usta, 1999).

From this point of view, the association of practice-theory is of great significance for developing creativity in architectural design education. Therefore, it is clear that theoretical lectures and other activities supporting design as well as practical design lectures (design studios) have an important place in the curricula.The skills of the students to practice theoretical information have to be improved. This can be achieved by trial of different approaches by the facilitators in design studios. Since the lectures covered by the lesson plan may contribute to the design skill, the students should obtain theoretical and practical information.In this context, the examination of the architectural education schools reveals similarities, differences and weight differences among curricula.

Lectures and Activities Improving Creativity at Design Schools

The examination of the curricula of the architecture schools reveals that the common purpose of these schools is to raise creative architectures. However, how the concept of creativity defined as presenting the unique-original design in a way satisfying the requirements of the society is used in the curricula should be examined.

Accordingly, the lesson plans should include long hours of theoretical and practical design lectures that aim to equip the students with design and creativity skills available under the curricula. Moreover, today efforts are made to enrich the curricula with different approaches and opinions and to implement the same with different methods. These approaches principally include the transfer of theoretical and practical information to the students

without separating the same from each other and at levels suitable for the students.

Uluoğlu examines this approach as follows: “Design is a holistic process comprised of actions for determining and resolving problems that cannot be divided into steps or parts. The design action first starts with the representation of the object to be designed at a conceptual level in the mind, then continues with the establishment of relations between concepts based on the purposes and ends with learning rules upon using these relations to solve different problems.”

Atalayer criticizes the practice-theory relation by saying that the education given for raising creative individuals has hardly any theoretical aspect to balance the practice aspect of the education and to direct the individuals to a specific way.

In the light of the above data, this study examines the architecture departments of 6 institutionalized universities which direct the architectural education and have completed its settlement in terms of architecture, selected among 82 architecture departments in Turkey including TRNC. These departments are listed below according to their date of foundation:

- Mimar Sinan Fine Arts University Department of Architecture - 1883
- İstanbul Technical University Department of Architecture - 1942
- Yıldız Technical University Department of Architecture - 1945
- Middle East Technical University Department of Architecture - 1956
- Karadeniz Technical University Department of Architecture - 1963
- Anadolu University Department of Architecture - 1984

First, the lesson plans of the examined universities for bachelor programs are obtained. The analysis made for achieving the purpose of the study is based on the following information over the lesson plans:

- Total hours of required lectures: **R**
- Total hours of design lectures: **D**
- Hours of practical design lectures: **DP**
- Hours of theoretical design lectures: **DT**

The elective lectures in the lesson plans are not taken into consideration since students can select such lectures from different fields.

The architecture departments covered by this study are analyzed based on the ratios given below:

- Ratio of hours of practical design lectures to the total hours of required lectures **(DP/R)**
- Ratio of hours of theoretical design lectures to the total hours of required lectures **(DT/R)**
- Ratio of design lectures to the total hours of required lectures **(D/R)**

The analysis made on the lesson plans used in the architectural design education process in parallel with the criteria accepted in the scope of the research is given below in the following tables: The tables include explanations on the design lectures covered by the required curriculum, hours of theoretical and practical lectures and ratios regarding the purpose of the research.

Tablo 1 The analysis of design lectures in the curricula of architectural design schools.

MIMAR SINAN FINE ARTS UNIVERSITY 1883				ISTANBUL TECHNICAL UNIVERSITY 1942				YILDIZ TECHNICAL UNIVERSITY 1945				ORTADOĞU TECHNICAL UNIVERSITY 1956				KARADENIZ TECHNICAL UNIVERSITY 1963				ANADOLU UNIVERSITY 1984			
COURSES				COURSES				COURSES				COURSES				COURSES				COURSES			
REQUIRED COURSES				REQUIRED COURSES				REQUIRED COURSES				REQUIRED COURSES				REQUIRED COURSES				REQUIRED COURSES			
	p+t	theory (h/w)	practice (h/w)		p+t	theory (h/w)	practice (h/w)		p+t	theory (h/w)	practice (h/w)		p+t	theory (h/w)	practice (h/w)		p+t	theory (h/w)	practice (h/w)		p+t	theory (h/w)	practice (h/w)
BUILDING DESIGN THEORY AND METHODOLOGY-I	(2+3)		5	ARCHITECTURAL DESIGN I and RENDERING TECHNIQUES	(10+2)		12	INTRODUCTION TO ARCHITECTURAL DESIGN	(4+2)		6	BASIC DESIGN	(8+4)		12	BASIC DESIGN	(4+2)		6	ARCHITECTURAL DESIGN STUDIO I	(2+2)		4
DESCRIPTIVE GEOMETRY	(2+2)		4	BASIC DESIGN and VISUAL ARTS	(2+2)		4	BASIC DESIGN	(2+1)		3	GRAPHIC COMMUNICATION	(2+2)		4	GRAPHIC THINKING and ARCHITECTURAL DESIGN STUDIO	(4+4)		8	BASIC DESIGN I	(4+4)		8
BASIC ART AND DESIGN EDUCATION	(4+2)		6	ARCHITECTURAL DESIGN II and ADVANCED RENDERING	(9+3)		12	BUILD THEORY and DESIGN I	(2+1)		3	INTRODUCTION TO ARCHITECTURAL CONCEPTS	(0+3)	3		INTRODUCTION TO ARCHITECTURE	(0+4)	4		ARCHITECTURAL DESIGN STUDIO II	(2+2)		4
BUILDING DESIGN THEORY AND METHODOLOGY-II	(2+3)		5	ARCHITECTURAL DESIGN III	(6+2)		8	DESCRIPTIVE GEOMETRY	(2+1)		3	INTRODUCTION TO ARCHITECTURAL DESIGN	(8+4)		12	ELECTIVE CLASSES	(2+2)		4	BASIC DESIGN II	(4+4)		8
BASIC DESIGN	(6+0)		6	ARCHITECTURAL DESIGN IV	(6+2)		8	ARCHITECTURAL DESIGN 1	(4+4)		8	GRAPHIC COMMUNICATION	(2+2)		4	ARCHITECTURAL DESIGN II	(4+4)		8	ARCHITECTURAL DESIGN STUDIO III	(8+4)		12
BUILDING DESIGN THEORY AND METHODOLOGY-III	(2+3)		5	ARCHITECTURAL DESIGN V	(6+2)		8	BUILD THEORY and DESIGN 2	(2+1)		3	ARCHITECTURAL DESIGN I	(8+4)		12	ARCHITECTURAL DESIGN THEORIES	(0+4)	4		ARCHITECTURAL DESIGN STUDIO IV	(8+4)		12
ARCHITECTURAL DESIGN STUDIO-I	(8+4)		12	ARCHITECTURAL DESIGN VI	(6+2)		8	ARCHITECTURAL DESIGN 2	(4+4)		8	DIGITAL MEDIA I	(2+2)		4	ARCHITECTURAL DESIGN III	(4+4)		8	ARCHITECTURAL DESIGN STUDIO V	(8+4)		12
INTERIOR SPATIAL ORGANIZATION AND DESIGN	(0+2)	2		ARCHITECTURAL DESIGN VII	(6+2)		8	BUILD THEORY and DESIGN 3	(2+1)		3	ARCHITECTURAL DESIGN II	(8+4)		12	ENVIRONMENTAL-BEHAVIORAL SCIENCE	(0+4)	4		ARCHITECTURAL DESIGN STUDIO VI	(8+4)		12
ARCHITECTURAL DESIGN STUDIO-II	(8+4)		12	GRADUATION PROJECT	(6+0)		6	ARCHITECTURAL DESIGN 3	(4+4)		8	DIGITAL MEDIA II	(2+2)		4	ARCHITECTURAL DESIGN IV	(4+4)		8	URBAN DESIGN STUDIO	(4+2)		6
INTERIOR SPATIAL ORGANIZATION AND DESIGN	(4+0)		4					BUILD THEORY and DESIGN 4	(2+1)		3	PRINCIPLES OF BUILT ENVIRONMENT	(0+3)	3		ARCHITECTURAL DESIGN V	(4+4)		8	ARCHITECTURAL DESIGN STUDIO VII	(8+4)		12
ARCHITECTURAL DESIGN STUDIO-III	(8+4)		12					STRUCTURAL SYSTEM DESIGN 1	(2+2)		4	ARCHITECTURAL DESIGN III	(8+4)		12	ARCHITECTURAL DESIGN VI	(4+4)		8	ARCHITECTURAL DESIGN STUDIO VIII	(4+4)		8
ARCHITECTURAL DESIGN STUDIO-IV	(8+4)		12					ARCHITECTURAL DESIGN 4	(4+4)		8	ARCHITECTURAL DETAIL MODELING	(4+2)		6	ARCHITECTURAL DESIGN VII	(4+4)		8				
URBAN PLANNING DESIGN 1	(2+2)		4					ARCHITECTURAL DESIGN 5	(4+4)		8	ARCHITECTURAL DESIGN IV	(8+4)		12	DIPLOMA PROJECT	(6+0)		6				
URBAN PLANNING DESIGN 2	(2+2)		4					URBAN DESIGN	(2+1)		3	PRINCIPLES OF CITY PLANNING AND URBAN DESIGN	(0+3)	3									
GRADUATION PROJECT	(8+4)		12					ARCHITECTURAL DESIGN 6	(4+4)		8	ARCHITECTURAL DESIGN V	(8+4)		12								
								ARCHITECTURAL DESIGN 7	(4+4)		8	ARCHITECTURAL DESIGN VI	(8+4)		12								
ELECTIVE COURSES				ELECTIVE COURSES				ELECTIVE COURSES				ELECTIVE COURSES				ELECTIVE COURSES				ELECTIVE COURSES			
ELECTIVE				ELECTIVE				ELECTIVE				ELECTIVE				ELECTIVE				ELECTIVE			
TOTAL HOURS OF REQUIRED LECTURES (R)			213				168				203				226				180				179
TOTAL HOURS OF DESIGN LECTURES (D)			105				74				87				127				84				98
HOURS OF THEORETICAL DESIGN LECTURES (DT)			39				17				39				51				44				38
HOURS OF PRACTICAL DESIGN LECTURES (DP)			66				57				48				76				40				60
DP/R			0,3098				0,3392				0,2364				0,3362				0,215				0,3351
DT/R			0,183				0,1011				0,1921				0,2256				0,2365				0,2122
D/R			0,4929				0,4404				0,4285				0,5619				0,4516				0,5474

Evaluation and Result

The data obtained from the analysis made on the lesson plans of the architecture schools examined under this study entitled "Analysis of Architecture Curricula in Terms of Creativity" are given below:

Weight of hours of practical design lectures to the total hours of required lectures	**(DP/R%)**	Weight of hours of theoretical design lectures to the total hours of required lectures	**(DT/R%)**	Weight of hours of design lectures to the total hours of required lectures	**(D/R%)**
İTÜ	**%33,9**	**KTÜ**	**%23,6**	**ODTÜ**	**%56,1**
ODTÜ	%33,6	ODTÜ	%22,5	AÜ	%54,7
AÜ	%33,5	AÜ	%21,2	MSGSÜ	%49,2
MSGSÜ	%30,9	YTÜ	%19,2	KTÜ	%45,1
YTÜ	%23,6	MSGSÜ	%18,3	İTÜ	%44
KTÜ	**%21,5**	**İTÜ**	**%10,1**	**YTÜ**	**%42,8**

The results of the study can be presented as follows based on the above table:

- According to the recommended approach, the design lectures should not have only a single aspect and should include both theory and practice. The analysis reveals that the schools covered by this analysis adopt this approach. Long hours of design lectures in addition to theoretical lectures such as construction, architecture history, restoration ensure that the students gain a different point of view and the theoretical knowledge is integrated into practice.
- The hours of design lectures are similar in the curricula of the schools covered by the study. It can be concluded from this observation that these lectures supporting the improvement of creativity form the basis of the architectural education .
- The purpose of this study is not to show the pros and of the curricula. It aims to show that well rooted schools adopt different approaches, these approaches can be improved and new curricula can be created to improve creativity under current conditions. For this purpose, it is important to integrate the computer aided lectures into the curricula in order to adapt to the developing conditions.

As can be understood from the results, the similar principles adopted by the well rooted schools covered by this study form a foundation for the architectural education in Turkey. Consideration of the curricula developed by these schools as an example by the new departments recently opened or to be opened in Turkey where there are 82 architecture departments as of 2013 will facilitate that new and creative steps are taken.

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