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A Practice Upon Transformation Of Creative Data At Architectural Basic Design Education

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Abstract

One of the main aided points in the basic design education is to present different methods and spaces to students to help them develop their thoughts and improve their creativeness. One of the methods which help the designer to generate new forms is using inspiration and interpretations which are the inherent of design to differentiate the way of design to catch new ideas is using generative designs. In the generative design both the nature and the abstracts inspired from the nature are being useful in forming of architectural solutions. During this study by using generative design methods it is aimed for the students to perceive relation between forms better and to improve the creativity of the students to compose integrated approaches. In this respect a two parted case study is done by architecture basic design (first grade students).In the first step it is aimed to design the form itself and also to feel the scale of designs by forming a cube of 2x2 x2 meter using generative design and installation techniques. From half of the students it is asked to form their designs by only using lines and surfaces and basic geometric elements. And from the other half is asked to inspire the patterns of generating in the nature to form non-form shapes and forms to design a place or space. The second step was to compare the works of two groups. In the both groups it is shown that the works which are inspired by nature and used generative methods have been able to be more creative during the process of solving the problem of formation.

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1. Introduction

The relationship between form and space is important in understanding, perceiving and re-interpreting the space. During the architectural education, students have to understand the problems of design and develop their own stylistic compositions via re-interpretation. However, especially in the first year of basic architectural education, students come across with hardships in understanding the problems in design and shaping their designs via transforming the problem. One of the most important reasons of this is that the creative capability inherent in the architectural designing process, visual-critical thinking ability and the ability to perceive the volume and to transform it through understanding the relationship between the elements of the volume have not developed at this early stage yet.

Form in a design process was defined as the organization and transformation of the composition by geometrical elements in order to solidify the image in relation with the design idea [1]. Students generally shape their designs via planar and volumetric organization of two or three dimentional geometrical shapes whilst organizing their stylistic compositions [2]. However, both the limited nature of these relationships and the differences in stylistic pursuits paved the way for a new geometrical understanding. Generally, in this pursuit which is called non-Euclidean stylistic compositions inspiring from the forms in nature rather than basic geometrical shapes constitute the basis. And among these stylistic and spatial pursuits one of them is generative approaches. In generative approaches, every relationship obtained from the nature or by abstraction from the nature helps creating new architectural solutions. In this approach, the student defines the unit that creates the form and the relationship between the units via analyzing a form found in nature. At the later stage, he/she defines this two or three dimentional natural form by abstracting it. At last, he/she defines the rules regarding how this basic unit is going to be in relation with other units, and he/she explores different stylistic alternatives. Thus, in this approach, processes of abstraction of the natural environment after examining the development and changes of the natural environment, transformation of the abstract basic form obtained as a result of this and adaptation of it to the volumetric organization.

In the basic design education, one of the main goals is to provide students with methods and media that will help them develop their ideas and produce different creative solutions [3]. Design educators have tried many methods for this. One of these methods and media is the installation (arrangement) technique. The concept of "Installation" - with its simplest definition- is "placing object or objects inside the place, determining their places."[4]. However, the complex part of the subject involves the how and why these objects are placed into the space, the importance of this organization in relationship with the space, in other words the conceptual part of the relationship between the place and the object [5]. In this respect, installation in architecture is a process of composition that reshape the qualities of the place by re-examining and re-question the information (quantitative value of the place) related with the spatial perception of the user. During this process, the students first determine which geometric elements will be composed with which relationship whilst organizing the spatial composition with this technique. Secondly, how the user perceives this place and with what kind of expressions (guide, empty, full, closed, tidy, untidy, dynamic or static etc.) he defines the place gains importance. Organizing the place via different stylistic qualities will result in creation of different spatial perceptions and rehandling of the place with interpretation via different relationships by the students. Thus, the products that the students produce will be various via differentiating both the production manner and the media of production.

With this study, it was aimed to determine how the students of basic design education produce spatial composition when their approach and the environment to produce architectural form changes and how the perception of composition changes as a result. Thus, an integrated approach that is based on method and practical experience, which may be helpful to the students of basic design education in producing form, was aimed to be developed.

2. Case study and findings

Basic design education was defined as "a thought system embedded at the basis and inside the flow of the design education that will accelerate the education and that has a predominant visual aspect" [6]. During this educational process, the students were expected to produce a creative solution by uniting different forms with regard to basic design principles while they are shaping their stylistic compositions but generally the students have hard time to