

Interaction of Concept and Design

Özge Islamoğlu*

Karadeniz Technical University (KTU), Faculty of Architecture, Department of Interior Architecture 1, Turkey

Abstract: During the design process, various methods are used to develop the creative thinking. One of such methods is to commence the design process with a concept. The study aiming to emphasize the importance of concept covers a workshop themed as design with concept. The workshop was undertaken within the scope of Flexibility in Design course of Department of Interior Design, Faculty of Architecture under the Karadeniz Technical University. The workshop was structured as four phased. In the first phase, the students were provided with information regarding conceptual design; then in the second phase, the students were required to choose from one of the buildings that worldwide known architects used conceptual design method and to get information on the interpretation of method and in the third phase they were asked to design their forms derived from the concept. The last phase was comprised of discussing the similarities and differences of new forms generated from the concept. The study is considered as significant for the students in the way of experiencing the concept of a building designed by a concept and designing their own forms without seeing the building.

Keywords: Concept, conceptual design, design, design process.

1. INTRODUCTION

During the design process, various methods are used to develop the creative thinking. One of such methods is to commence the design process with a concept. The function of concept is to lead the design during the design process and the concept facilitates the momentum in the productive processes [1].

In addition to various definitions on the concept, it might be considered in general as a setup or plan that includes creativity where an individual visualise towards an outcome. According to Ching design is considered as a number of linear methods; it is comprised of analysis, synthesis and assessment phases. In consideration of this process, the designer follows a set of ways to transmit an idea [2]. Bielefeld and Khouli discusses the way that a designer pursues in two ways [3]. The first one is realized by analysing certain parameters including environmental context, historical development and user needs, and generating ideas that lead to a concrete design concept; while the other is undertaken by searching for a concept in the beginning from the single details, conditions of design problem and even the inspirations that are not directly connected with the problem. Pursuant to Zelanski the concept is defined by concept linked or not linked with the design; and the concepts linked with the design are the concepts arising from the own problematic of design, while the other concepts created independently from the design are the concepts outside of the design [4].

Within the design process, the designer puts an effort to create form regarding the solution of problem, and hence uses various methods to reach the correct form. The first step of this process covering research, assessment and creativity feelings is to find an effective essence that would be used to identify the idea and create the original form [5]. The essence here is the concept. The concept adopted in solving the design problem helps the determination of various decisions as construction material and experiences of users in the space [6]. At that phase, the designer identifies an abstract or tangible concept that would become suitable in solving the problem. Uraz stated that there are two ways in the determination of conceptual infrastructure [7]. The first group is the objectives of employers, users and regulations; while the second group is comprised of experiences, beliefs and philosophy of designer. The determined concept is interpreted in the way of reflecting the own identity, tastes and ideas of designer.

Within the scope of study underlining the importance of conceptual design, a workshop activity themed as conceptual design was conducted upon providing information on the concept during the design process.

The study covers the process and outcome products from the workshop realized with the theme of conceptual design following the provision of information on the conceptual design accordingly.

2. CONCEPT DURING THE DESIGN PROCESS

Design is a production process that the existing ideas or objects are re-interpreted or transformed into

*Address correspondence to this author at the Karadeniz Technical University (KTU), Faculty of Architecture, Department of Interior Architecture 1, Turkey; Tel: 0 530 275 1252; E-mail: ozgesever@hotmail.com

different forms [8]. The development of this process within the framework of a concept contributes on setting of design on to a quality and original idea. Design and concept are the components of an inseparable whole. While it is not correct to separate a content of an object as object and sign, it is also not sound to think design separate from the concept, since the components that have effect in and complement the design are reduced [1].

The concept is considered as the starting point and main idea of every field requiring creativity. Archer [9] defined the concept in its simplest form as the naming of number items with any commonality while Morgan's [10] definition includes the imaginative orders generated through grouping the objects in accordance with their comparison in terms of their features. Concept, which is an idea contributing the formation of a design and a starting point that is original for the designer, is the first step of creativity process. The phase that the designer expresses oneself, delivers ideas and particularly develops an original language is the first phase of developing concept proposal. Each designer completes his design process depending on own method, knowledge and background through an unique way, and the identified concept is reflected on the developed design at different scales.

The concept must be certainly transferred to two or three dimensions and be formed. Consequently, the form is used for the expression of meaning during the design process. The form is also required for the performance and management of function. Namely, the state of a semantic and functional concept turned into a form determines the concept of design. The terms of notion and concept are widely mixed, yet they have different meanings and create successive processes. Krier defended that the words of notion and concept show variances in terms of formal aspect [11]. The notion is an idea kept in the mind, a thought or a series of first view regarding a project, while the concept is the first concrete step generated during the phase from a notion to a project. Within this perspective, the notion is considered as abstract and the concept as the drawing,

sketch, model etc. materialized by the notion in accordance with the subjective and objective language of design [12].

Concept is the state of idea on the design formulated originally; and the first decision of design yet not developed but reflected on the final product. Hence, it is the key element of designing act. As being the form generated from the notion but brought to a upper level through its interpretation with a creative perspective, the concept is now a personal moderator. Therefore, the concept determination is possible by merging the identified notions *via* a way determined by the designer, which means a preparation for an interaction.

The definition covers as a level of proposal in the notion upon a series of processes. Balkan [13] noted that the notion of concept literally means "an idea" integrating various elements such as idea, though, approval and observation, as well as in the design context, the concept is defined as a specific approach or way bringing content, context and philosophical views together.

Considering the notions is generated as a result of an individual's mental process, such notions must be deeply analysed or abstracted prior to introducing something new. Abstraction is a step required to transform a notion into a concept. Abstraction means filtering the identified notion in the mind and being able to see it with its features that might be a starting point of design. Consequently, the designer isolates the identified notion from any excesses and provides data to the concept that would lead the design.

Hançerlioğlu defines abstraction as a mental process approaching any features or relations among the features of an object on its own [14]. Uraz [7] defined the abstraction in design as filtering from the details, minimizing/reducing, separating/emphasizing and comparing. According to Turuthan it means to separate [15]. The essence and reality of any fact and event cannot be attained without generating abstract



Figure 1: Workshop phases.

notions. Abstraction in reality means a method and tool in order to reach the material again and comprehend the concrete whole within its internal relations [14].

The important aspect of design with concept is the interpretation and abstraction of data that would be a

starting point for the designer. Abstraction is the act to “understand” and “express” the data in hand. Abstraction allows identifying how a designer internalise and perceive the data; and it is also possible to reach the data concerning the concept accordingly.

Table 1: The Information Generated from the Texts

Architect/Building	Concept/Description
Saarinen /TWA Center	Flying and Wing
	Saarinen sought to capture the sensation of flying in all aspects of the building, from a fluid and open interior, to the wing-like concrete shell of the roof. Many have noted its resemblance to a bird or an airplane in flying; the dynamic upturn of its roofline seems to suggest as much. There is, however, an apocryphal story that suggests Saarinen's true inspiration was found not in aviation, but in the hollowed-out rind of a grapefruit that he pressed down in the middle. Whether the story is true or not, Saarinen never claimed that his design was meant to represent anything physical; it was, as he insisted, an abstraction of the idea of flying itself. The fluidity of the terminal's exterior was carried faithfully through its interior, as well [16, 17].
Ando/ Church of The Light	Religious Sign and Luminous
	For this building, Ando used the natural light as an intangible element in the space and introduced a statement with light. Using the Eastern culture and philosophy in the buildings, Ando included the nature and light within his designs as data leading his designs. He used the cross, which has a semantic value as a religious sign, and developed the design accordingly. For Ando, the cross sign has a symbolic meaning, which he aims to emphasize the relation between building and nature [18] [19].
Foster/ Nou Camp Stadium	Commitment and Dedication
	Foster has been selected to remodel Camp Nou Stadium for FC Barcelona, which is such an important symbol for the Barca fans and the Catalan people. He explains that football is a powerful and democratic force that brings together all social classes for celebration. Therefore, the design features an exterior decorated with multi-coloured, scale-like tiles. These mosaics are yellow, red and blue in color, which reflects Catalan identity and Barcelona's colors. It symbolizes the commitment and dedication of FC Barcelona's fans all over the world with its numerous mosaics [20]
Toyo Ito/Porta Fira Towers	Motion
	The project consists of two differentiated towers that are engage in a subtle dialogue. Despite the clear contrast between the buildings in terms of form, the relationship they establish is harmonious and complementary. The hotel tower was designed with an organic form and appears to change as one moves around it. The office tower complements and responds to the perceived twisting and movement of the hotel building. At the first glance, it appears to be a pure volume with a glass curtain wall set back slightly with respect to the floor slab. However, the red vertical core of the building, situated on the edge of the ground plan, is organic in form and reflects the structure of the hotel tower [21].
Libeskind/Jewish museum	Genocide/Hope and Past
	The building has a zig-zag lined form when looked from external. Libeskind tells visitors about the genocide and ignorance of Jewish culture. For this purpose, three different routes were created underground, allowing the visitor to experience the fear of hiding and losing their way. These three routes have different stories. The first and the longest are going to the continuity ladder, extending from the past to the future. Visitors arrive at the exhibition hall when they leave the stairs. The second route goes to the "Exile and Migration Garden" in order to remember that they have to leave Berlin. The third route is about a deadlock and genocide [22].
Hadid/ Aliyev Centre	Fluidity, Rise
	The city museum designed through an international invitational contest explicitly shows that it is a Zaha Hadid design with its glory, majesty and adhering to the lines. The museum was designed based on the mountain where Aliyev was born and the concepts of the rise of the Caspian. Zaha Hadid aimed to reach "the urban landscape" ground. The objective was to create a blurry ground. The relation between interior and exterior, light transmittance and flows stand out [23].

3. WORKSHOP: CONCEPT-DESIGN RELATIONSHIP

The study is structured from the argument that design and concept are the components of an inseparable whole and that design and concept should be a method of design. Within the scope of study aiming the significance of design with concept, a four-phased workshop was organised as part of the course of second year students Flexibility in Design of the Department of Interior Design, Faculty of Architecture under the Karadeniz Technical University (Figure 1).

In the first phase, a presentation concerning the conceptual design, abstraction and the relation

between concept and design was given to the students and in the second phase, the students were asked to make a research within a certain time period about an architect and a building designed by that architect. They were required to express in a text upon identifying the concept used in the design of that building. Therefore, the objective is to lead the students into researching about the buildings that the world known architects designed with concept; choosing among such, learning how the determined concept is reflected on the design. The information generated from the texts were summarised in Table 1 under this study.

Table 2: Forms Created from the Concept

Concept	Forms				
Flying/Wing					
Religious Sign/Luminous					
Commitment /Dedication					
Motion					
Genocide/Hope/ Past					
Fluidity/Rise					

In the third phase, the students were asked to create new forms in relation with the concept determined on the basis of information expressed by the designer in the literature. Each group had created a form regarding the concept introduced by the previous group. They were also asked to write the texts about the concepts introduced in the second phase and then these texts were provided to the following group so that they can interpret, abstract and create a new form from this new concept. For instance, the concept introduced by the 1st group was given to the 2nd group, and such circulation continued among all groups. 2nd group took the concepts of first group and started to work on three-dimensional works to create a new form as requested. The colour, material and texture etc. were not restricted, and they were also required to be limited with 30*30 cm area (Table 2).

Hence, the students learnt the concept that a building is designed, and how that concept was reflected on the design; and they were able to create different forms through the abstraction of new concept. In the last phase, the works produced in the 2nd and 3rd phases were shared with the whole class and the similarities/differences of selected building and new form were discussed.

CONCLUSION

The workshop activity was structured in the way of emphasizing the significance of design with concept. As a result of the activity, the student analysed the buildings of conceptual designers and experienced the conceptual design by re-interpreting such concepts themselves.

In the first phase and second phase, the students;

- Were provided with the information about the selected architects and their buildings,
- Understood that the architects choose concepts based on abstract and concrete concepts towards the identified function without detaching themselves from their own design approaches and styles,
- Observed that the relation of concept and design is considered from the beginning of design process,
- Understood how the concept is reflected on the design during the design process,

- Observed that the buildings are remembered easily through concepts.
- In the third phase, the students;
- Observed that different designs can be realized with different ideas based on a concept,
- Saw that the design with concept facilitates the provision of productivity and diversity,
- Got experience regarding the time management with their limited timeframe
- Expressed their ideas in a group.

In the fourth phase, they presented the forms that they produced, got the feedback from each other and reinforced their knowledge by looking into other works.

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