TASARIM ARAŞTIRMALARININ DENEYSELLİĞİ BAĞLAMINDA “O’NUN GİBİ TASARLA” ÖĞRETİSİ¹

“DESIGN LIKE HIM/HER” METHOD IN THE CONTEXT OF EXPERIMENTALITY OF DESIGN STUDIES

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Öz: Amaç: Mimarlık eğitiminde tasarım yapabilme becerisini geliştirmek amacıyla mimarlık öğrencisinde içkin bilgi ve deneyimlere temel tasarım stüdyolarından kazanılan alışkanlıklar, mimari tasarım stüdyolarının potansiyel kaynaklarından aktarılan düzenekler ve algısal becerinin artmasıyla edinilen yeni imajlar eklenmektedir. Bu metin, mimari tasarım stüdyolarından ayrılan ve olası bir mimari sorunu çözmek üzere değil nasıl tasarım yapılacağını öğrenmek üzere yola çıkan bir öğretiyi konu almaktadır. **Yöntem:** Cumhuriyet Üniversitesi Mimarlık Fakültesi Mimarlık Bölümü’nde üç defa uygulanmış olan bu deneysel yöntem, ünlü mimarların tasarım stratejilerini çözümleme, benzetim, soyutlama, uyarılma gibi araçlarla öğrenilen “O’nun Gibi Tasarla” maktan meydana gelmektedir. **Bulgular:** “O’nun Gibi Tasarla” öğretisinde temel prosedür, öğrencinin tasarladığı yeni yapıda ünlü mimarlardan esinlenen tasarım davranışlarının yer almasıdır. Değerlendirme, öğrencinin çalıştığı mimari ne derece özümseyebildiği ve sonuçta tasarladığı yeni yapıda ünlü mimara ait çizimleri ne derecede karakterize edebildiğinin tespitinden oluşmaktadır. Bu deneysel yöntemde algılama becerisinin kat ettiği yol ve tasarlama ediminin içselleştirilen süreci bir tasarım problemi için sunulmuş mimari tasarım çıktısı üzerinden ölçülmüştür. **Sonuç:** Yeni mimari ürün biçimsel-mekansal-üslupsal bir seçicilik aracılığıyla üretilen tasarım bilgisi üzerinden deneylenmiştir; bu deneyde “O’nun Gibi Tasarla” öğretisi kapsamında geliştirilen tasarım metodları, ünlü mimarın ya da tasarımının baskın karakteri etrafında biçimlenen sonuçlara yol vermiştir.

Anahtar Kelimeler: Öğretim Yöntemi, Analoji, Tasarım, Ünlü Mimarlar

Abstract: **Aim:** In the architectural education, with the purpose of improving the skill to design, habits acquired from basic design studios, settings transferred from potential sources of architectural design studios, and new images obtained with the increase in perceptual skill are added to the immanent knowledge and experiences of the architecture student. This text, which discriminates from architectural design studios, is about a discipline that is about learning how to design, not to solve a probable architectural problem. **Method:** This experimental method, which was exercised three times at the Cumhuriyet University, Faculty of Architecture, Department of Architecture, consists of “Design like him/her” which is learned with the tools such as assimilating, analogizing, abstracting, and adapting design strategies of famous architects. **Findings:** The basic procedure in the discipline of “Design like him/her” is having design behaviors from famous architects in the new structure that the student has designed. The evaluation consists of the detection of how much the student was able to assimilate the architect s/he was studying and to what extent s/he was able to characterize the sketches of the famous architect in the new structure that s/he designed. In this experimental method, the covered ground of the perception skill and the internalization process of the design performance are measured via an architectural design output that was presented for a design problem. **Conclusion:** The new architectural product has experimented via a design knowledge that was created through a figural-spatial-stylistic selectivity; in this experiment, the design methods developed within the scope of the discipline of “Design like him/her” concluded with results that formed around the dominant characterization of the famous architect or design.

Key Words: Teaching Method, Analogy, Design, Famous Architects

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INTRODUCTION

This text is about a teaching/learning technique experienced in developing design skills in 2016-2017, 2017-2018 and 2018-2019 academic year fall semester at Cumhuriyet University, Faculty of Architecture, Department of Architecture. This theory, that was established on teaching/developing/supporting of designing skills, is based on designing and moreover analogizing with the inspiration (assimilation/homogenization/interpretation) from the works of well-known architects who hold a key position in the architectural culture. In other words, forming any internalizable sketch character on the architecture student by designing like him/her, or assimilating design principles of the famous architect as an inspiration, or creating a new design strategy which can be developed with analogy are clear aims of this discipline.

Based on this aim, the architecture students who were conditioned to “Design like him/her” made their choices that triggered the discipline’s start by their optionally internalized tendencies. The in-depth assimilation of the famous architects and their works, which were chosen without any imposition, by the architecture student was managed as discussed in the following sections of the text.

AIM

The “Design like him/her” method, which is carried out through architectural design being teachable and learnable, is based entirely on an experimental basis. Experimental basis means that a method to approach a problem within the educational setting consists of process of research and a series act of drawing and designing and thus, experimental methods filled a niche via design experiments in order to improve educational practices (Schaefferbeke and Heylighen, 2013: 160). The primary aim here is to investigate the contribution of characterized sketches, figural styles, or spatial organizations, which were assimilated via assimilation/homogenization/interpretation, to the designing skill. Measuring to what extent assimilating the designs of important architects, who gained a seat in the architectural culture with their touches, sketch characteristics, or figural approaches, and imitating them develop designing skill, is the experimental side of the method of “Design like him/her” which pushes the architecture student to think and direct them to draw sketches. The need to practice such motivation is the truth of, apart from the environment of architectural studios, seeing the architecture in a design-oriented approach and diversifying the achievement methods of designing knowledge. So much so that Dinç Kalaycı (2016: 17) states that the architecture phenomenon cannot be obtained

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just from design studios and the practice and intellectual areas of architecture involves theoretical knowledge and the methods to obtain them. Although “Design like him/her” method seems to against architectural design, it should be accepted that it is just an experiment which employed in order to fictionalize design ability of students. Of course, architectural design has several dynamics such as context, place, form, spatial organization, functional relationships and basic design principles. Apart from architectural design, the method here is merely conditioned that how characterized sketches or figural styles of famous architects transform into the design knowledge. From the view of this, “Design like him/her” method doesn’t seem to against the architectural studios but rather it is a contribution to develop design habits. By grasping design notions of famous architects, design precept can be objectivized and, clues of architectural design theory can be comprehended by assimilation/homogenization/interpretation. This inventional process doesn’t obscure design which is independent and safe from imitation but rather it presents a grasp method in the context of knowledge, intuition and invention. This is the contribution of this method to create a design. In addition to this, it can be asserted that purpose of education is to bridge the gap between the real world and the world of appearances to navigate between experience and knowledge (Koštic, 2013:

30). Also, this need to practice such motivation stems from the idea that creativity in design can be facilitated by the use of symbolic equivalent of experience since creativity is a stimulation of an architect’s skills (Salama, 2015: 159). Accordingly, the method of “Design like him/her” is an experimental teaching method which expands the application area of the architectural design and diversifies the methods of putting the acquired theoretical knowledge into practice.

SCOPE

A partially similar method was published by Gordon B. Simmons in the Journal of Architectural Education with the title “Analogy in Design: Studio Teaching Models”. The mentioned article addresses strategic models that are used to discover designing process, construction technology, and figurational dictionary assuming every form of abstraction is a special example of analogy (Simmons, 1978: 18). Among these, in the figurational dictionary model, students were asked to model their own designs after the works of famous architects. The students who had done research on Aalto, Mies, Le Corbusier, and Wright were expected to make designs in the manner of Aalto, Mies, Le Corbusier, and Wright. The students were expected to approach design problems in the manner of him/her; assimilate dominant factors, personal ideas for problems, how they worked with the subjects such

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as location-technology-structure; and transfer these to their own figurational dictionaries. As a result, it was emphasized that beyond the accumulation of designing skill, describing what the student had learned may add to the studio experience an intellectual existence (Simmons, 1978: 20). This analogical model uses analogy as a source for creative ideas and adopts the architects inspirations and therefore, it can be accepted that design is not only a process of invention but also a selection process (Salama, 2015: 123).

A teaching experience such as this is actually based on analogical problem-solving. The method of “Design like him/her” that was also based on analogy requires the designs belonging to famous architects to pass through the internalization stage. Öymen Gür (2007: 96) states that the analogical design is a type of design where the designer obtains similarities from other architectonics and natural forms. Analogizing in the solution of a targeted design problem includes the characterization of original design ideas, sketches, and construction technologies. Gick and Holyoak (1980: 312-313) emphasized that an analogy basically involves the mapping between two qualities and even if it does not define the identity by relying on the basis of similarity between correlations, it just requires a consistent transformation. In the scope of the method of “Design like him/her”, the mean-

ing of this is the need to establish consistent similarity relations between the designs of architects that the students have chosen and their own new designs that they are going to “Design like him/her”.

METHOD of the RESEARCH

This teaching experience is actually derived from a method proposal which based on the idea that students’ visual and spatial cognitive skills can be facilitated by analogy. It must be stated that “Design like him/her” method uses analogy as a source for assimilation/homogenization/interpretation. Thus, this method doesn’t directly imply notion of analogy but rather this is a selection process. As Gick and Holyoak (1980: 312-313) put it that analogy is a kind of mapping process. Accordingly, “Design like him/her” method consists of an investigation practice and it relies on explicit design manner and process in the context of experimentality. More clearly, this method contains clues of characteristic architectural product-conclusion relation in the scale of design-product. By virtue of the fact that design process is described as dualities such as sensorial and rational, abstract and concrete, form and content, this method of the research should be focused on questions how form is produced, what method is used and what the motivations are (Voet, 2013: 102). Thus, the method of “Design like him/her” consists of these stages:

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- 1). The choosing of a famous architect by the students in order to be used in the design research,
- 2). The investigation of the famous architect and his/her works, assimilation by adoption,
- 3). Revelation of the sketches, ideas, materials, technology and style of the famous architect by description,
- 4). Transformation of the images by passing them through mental process to come up with original design decisions with the purpose of building the new design,
- 5). Finding a solution to a new design problem with choices by thinking “like him/her”.

The basic procedure in this teaching method is not only to imitate the famous architects but also to develop the student’s designing skills via analogy. Analogy is employed here in order to provide a grasp of design source. In the context of this view, analogy should be accepted in the meaning of a mechanism which contains assimilation/homogenization/interpretation process. Contrary to usual notion of analogy in literature, analogy is deconstructed in terms of theory and practice in this paper. Accordingly, analogy here means a reading mechanism that consists of knowledge experience, notional fiction, reduction in grasp (facade system/relations of mass and tectonic), priorities in design comments and

comments through priorities. Such a mechanism can present a new view with regard to develop design ability. For example, architecture students can be gained a skill about design priorities through a famous architect. Or they can be gained a grasp on reading design elements such as spatial organizations and facade system and, also by practicing, architecture students can develop their intuition, feeling and seeing shape of design. All these developments can be gained by practice and this is the point that “Design like him/her” method gets involved in the process.

First stage of the method consists of a selection process. Architecture students choose a famous architect freely. This random selection process is strictly based on the student’s preference. Any orientation of this selection process doesn’t be made. Thus, architecture students who are at the certain level in architectural education, select an architect depend on their knowledge. When the second stage is come, architecture students make an investigation process about architects. This process is become enjoyable because of the free preference and thus, architecture students can make all research activities without get bored. So, the process can be worked in a healthy way. In the third stage, description process consists of revelation of the sketches, ideas, materials, technology and style of the famous architect. This is the assimilation/homog-

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enization mechanism of the analogy. On the other hand, interpretation mechanism of the analogy is come from the fourth stage. Transformation of the images is occurred and all outcomes are passed through mental process to come up with original design decisions with the purpose of building the new design. After this assimilation/homogenization/ interpretation mechanism of the analogy, finding a solution to a new design problem with choices by thinking “like him/her” is emerged. This method can help the architecture students’ ability in terms of defining design priorities, reading and grasping spatial organizations, realizing the difference between the tectonic relations and mass fiction.

The evaluation of this experimental method is focused on whether analogies regarding the famous architects were made or not. As mentioned above, the aim of the method of “Design like him/her” is not directly imitate them, rather to learn the characterization of famous sketches, to investigate how these behaviors can be used in the new design problems, and to investigate how the student can engage these in their own designing skill. Thus, the architecture students experienced an encounter with a design problem beyond architectural studio education and finding a solution via

a determined experimental approach, that is to say, the analogy of famous architects. Also, to have a clear look at how this method that the architecture students have experienced affected their choices, cognitive processes, and synthesizing processes a questionnaire study was carried out (Table 1). Thus, the images generated from analogical methods, analyses and syntheses, and transferred to the new design problem are made apparent.

In the method of “Design like him/her”, it was paid attention for the chosen famous architects to range starting from the modern period architects and to the recent period designers called “starchitects”. The chosen architect’s projects were researched, assimilated, and a new architectural product was achieved by “Designing like him/her”. It should be emphasized that new architectural products, achieved by “Designing like him/her” are a kind of representation. These representations should be understood as space to construct the ideas and as a provisional condition to transform the series of possibilities (Pacheco, 2013: 155). In the inspirations based on design products, by investigating to what extent the student used the famous architect’s figurational dictionary, the design results were detected via a comparative measure method.

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Table 1. The Questionnaire Study That Informs About Assimilation/Homogenization/ Interpretation Processes in the Method of “Design Like Him/Her”

1. Describe the midterm and final assignments given in the Architectural Identity class.
2. Which architect did you choose in order to use in the class outcomes? Explain the reason in a few sentences.
3. State the characteristic features and architectural portrayal of the architect you chose using keywords.
 - a) In terms of style:
 - b) In terms of utilization of structure:
 - c) In terms of building material:
4. State the level of your impression by the architect you chose in the site selection for your design.
- 5 ... 4 ... 3 ... 2 ... 1 ... 0 ... (The level of impression decreases from 5 to 0)
5. Which approaches did you adopt related to the design dictionary of the architect you chose? Why?
6. Add a sketch character of the architect you chose that inspired and explain why you were impressed by such figurational language.
7. Draw your new design below schematically.
8. Describe how you used the figurational language or design method belonging to the architect that inspired you in your design.

ARCHITECTURAL IDENTITY DISCRIMINATION: DESCRIPTIONS AND REPRESENTATIONS

You experienced the conceptual approach of “Design like him/her” in the class “Architectural Identity”. You were informed of the design language of an architect of your choosing by analyzing their works. Below are two tables. The first table is for the architect you chose and the second table is for the structure you designed with the “Design like him/her” approach. Fill in the blanks in the tables considering the instructions below.

Architect: Architectural Identity Discrimination

Periodic Discrimination:

Spatial Discrimination:

Structural
Discrimination:

Instructions:

1. Are there different periods in the production process of the architect according to style sources? If so, draw the architect’s transformation of figurational language schematically in the “Periodic Discrimination”.
2. Are there any distinct form anxiety acting as a source to the architect’s design language? Draw the architect’s works’ features such as reminder/evocative/highlighting in terms of the architect’s design language schematically in the “Spatial Discrimination”.
3. Draw the material and structural features that act as a source to the architect’s design language schematically in the “Structural Discrimination”.

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Draw your new design and features such as figure/material/structure that you quoted from your chosen architect's design sources schematically.

SKETCH OF THE NEW STRUCTURE BY “DESIGNING LIKE HIM/HER”

Spatial

Structural

Final Product

LIMITATIONS of the RESEARCH

One of the limitations towards the method of “Design like him/her” stems from this method being an experimental application. This method that was applied to a specific group in an experimental time-space cycle is dependent on a time-space-architecture student group relation to provide different results. Another limitation is because the student group on the same level of education in the scope of architectural education are affected with different intellectual, sensory, and cognitive images and therefore do not have similar designing behavior.

PROBLEM of the RESEARCH

The method of “Design like him/her” was experienced in order to develop design skills in 2016-2017, 2017-2018 and 2018-2019 academic year fall semester at Cumhuriyet University, Faculty of Architecture, Department of Architecture. The main expectation in this method is to develop the student's designing skill and to diversify the teaching

models in architectural education. The basic problem of the research is, via analogy which is fueled by processes such as assimilation/homogenization/interpretation, whether it is possible to improve the designing skill of the architecture student or not. The processes assimilation/homogenization/interpretation are the comprehension of what kind of selectivity level does the figurational, structural, and spatial relations in the design of the famous architect define. And this is fueled by whether the figurational dictionary depends on a perceptual selectivity. The detection of how and to what extent the architecture student can use the knowledge acquired via analogy in finding solutions to a new design problem is a problem that the research needs to face.

SUB-PROBLEMS of the RESEARCH

In line with the source of inspiration, it is possible to consider the design approaches and designs of an architect, who is widely known in the literature, through processes such as assimilation/homogenization/interpretation,

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as an important form of learning in design. This approach, which is adopted as a learning method in designing or developing design skills, also feeds on some sub-research problems. The most important of the sub-problems of the research is undoubtedly the capacity of the student's perceptual, intuitive and sensory skills. The ability to read design data already existing and to produce design knowledge from it is a result of the aforementioned skill capacities. Therefore, this research also aims to problematize and improve the perceptual, intuitive and sensory skills capacities of the architecture student. One of the sub-problems of the research is the assimilation and internalization processes. Students who are at the same level within the scope of architectural education may not have similar design behaviors considering the differences in their living conditions and mental mechanisms. Accordingly, with a particular way of getting inspired, homogenization/interpretation styles go through different assimilation and internalization processes. While some of the students can produce more detailed and clear design knowledge in the internalization process, some of them use the direct imitation method without any interpretation, or because they cannot sufficiently internalize and are not able to produce the correct design knowledge, the final product cannot be sufficiently developed. Therefore, the other one of the sub-problems of this research is

to activate the processes of assimilation and internalization via "Design like him/her" and produce the correct design knowledge.

HYPOTHESES of the RESEARCH

The hypotheses of the method of "Design like him/her", that is in line with the source of inspiration, via analogy that is fueled by processes such as assimilation/homogenization/interpretation, whether it is possible to improve the designing skill of the architecture student or not, are listed below:

- 1). Design skill is a skill that can be improved by feeding on different design knowledge.
- 2). The perceptual performance process is an area of activity that can be improved by studying important images.
- 3). Inspecting the designs of the famous architects, because it will present new design knowledge, assimilation/homogenization/interpretation methods to get inspired improves design skills.
- 4). It is possible to learn by analogy.

THEORETICAL FRAMEWORK: DEVELOPMENT of an EXPERIMENTAL TEACHING METHOD VIA ANALOGY

The main tool of this method is, in line with the source of inspiration, to investigate the experimentality of the analogical designing method that depends on assimilation/homog-

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enization/interpretation. To what extent analogy can improve the design skill and what does it contribute to the designing stage is the main investigative area of this text. The analogy can be described as the similarities of relations and the known relations in the source and the description of the similarity between possible relations in the targeted situation takes it to the creation of analogy (Casakin and Goldschmidt, 1999: 154). This discipline style follows a strategy of designing a new structure by assimilating the designs of famous architects and imitating the internalized factors.

According to Gick and Holyoak (1980: 314-315), analogy and the process of the new design should consist of these three stages: a) representation of the analogy and the new design (the initial state and the final state) must be established; b) the representation of the story must be mapped on the new design problem; c) similar solutions should be produced for the new design. It is expected that the perceptual skill parameters of the architecture student to be very clear and effective (reflection-in-action¹). Swann (2002: 57)

states the necessity for the research process to be visible in this activity. That is, the visual form examined is a kind of information store and contains the ideas and techniques that are necessary for design. The qualities that the student perceived from the figuration he assimilated must influence the problem-solving performance of his/her new design and form his/her design. Since design activity is a form of knowledge production, it is expected that the architecture student will act in such an analogy on a mental synthesis between him/her and the famous architect. As soon as the new design is planned, the design process reveals the series of events and this planning not only includes values from the expertise of the design, but also the designer's own world and good design examples that affect it (Heylighen et al., 2009: 101). In the new structure that is designed via the method of "Design like him/her" not only involves the famous architects' figurational, structural and spatial characterizations, but also the architecture student's immanent abilities that determine this selectivity level. This means creating a design methodology. The method of "Design like him/her" as a method to teach designing or to develop design skills is based on the internalization of the designs of the famous architects through analogy, synthesizing the

1 The "reflection-in-action", that was suggested by Donald Schön, is a reflective dialogue between the practitioners in professional practice areas and a special part of the artistry that they tackle with its uncertainty, originality, and value conflict, in other words, the material of the case (Schön, 1984: 5). This action in the studio process of architectural education, reveals itself by showing and imitating, telling and listening; and it is an experiment that

tests the studio director's interferences, students' understanding, and the effect of the interference (Schön, 1984: 6). Only in this way the studio director reaches an active practice profile.

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design of the autonomous subject with design repertoire, and producing similar solutions to similar problems. As stated by Cross (2001: 54-55), some of the design knowledge of the artificial world is immanent in the design activity; some are immanent in the works of the artificial world gained through the use of architectural works; some are immanent in the production processes of works; and some are in the of information available through teaching/instruction.

The ability to design is crucial in the stages of the acquisition of design resources and turning these into a part of a solution to a new design problem by transforming them into design knowledge. Galle (2011: 93-94) emphasized that criterions such as public acceptability, proper scope, and exploratory potential should be present in the description of the design and suggests that without mentioning creativity, ideas, and aims it is impossible to teach design. Therefore, when forming the basis of the analogy in the method of “Design like him/her”, design procedures such as conformity, consistency, creativity, and explorability are prioritized to be transformed to active practice form. As a matter of fact, the design process which develops by organizing, classifying, and analyzing knowledge leads to the result of architectural design by transforming knowledge into design decisions after ongoing iterative and punctuated

processes such as trial-and-error and desires-conflicts (Goldschmidt, 1983: 8).

It is necessary to mention a few points about the inspiration strategy of the method of “Design like him/her”, which leads to the conclusion of an architectural design by converting the information given by analogy from the designs of famous architects into the solution of a new design problem. The first of these is about getting inspired by the past in a new design. Kauppinen (1987: 46) points out that historical analysis will help students understand how architecture is a natural consequence of place and time. Likewise, there are studies on the creation of the sources of the outputs of the inspiration process, in other words, how the design decisions are created with inspiration. For example, Chan (2015: 46-48) emphasizes how the best ideas evolve not from distant sources, but with close concepts, showing how the value of inspiration of resources is diversified from the far-away problem area with conceptual distance. Another subject in the inspiration strategy is the production of design knowledge and its transformation into design decisions. In this mechanism influenced by cognitive and sensory behavior style, knowledge is shaped by subjective inferences rather than universal. Tzmir and Churchman (1989: 238) argue that the dominant sources of knowledge of the student are their own experiences, ideas,

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and feelings and that these personal resources are the primary basis for justifying decisions throughout the design process. In other words, similarities established by analogy in the designs of famous architects are synthesized by personal sources and undergo a translation through cognitive behavior when being transferred to the new design. Therefore, it is inevitable that the design decisions coming from the method of “Design like him/her” will be included in the design knowledge provided that the basic ideas are preserved. The meaning of this is, as stated by Goldschmidt (1998: 265), images help the designer when the helpful hints are read and this is not copying or imitating the image as it is, on the contrary, it is the transformation of the images that are interpreted and manipulated during the design research to meaningful suggestions for the target design assignment. In one aspect, the design research is transformed into an objective mapping work in the construction process. In other words, it is the activation of the thought process, and the ability to build the design intelligence which make the developed understanding a design strategy. Oxman (2004: 64) argues that experimental approaches to design education include theoretical foundations for modeling that are based on cognitive theories of thinking, creativity, and learning; conceptual knowledge is obtained through modeling as well as cognitive process; and moreover, the student

will work as a design researcher while learning how to design. Therefore, the method of “Design like him/her” implies both obtaining design knowledge by activating cognitive tools such as thinking/seeing/assimilating/interpreting and also being able to comprehend the nature of the approaches to any design problems. Indeed, as Goldschmidt (1989: 214) stated, it is necessary to relay more than design skills to the students, with more than just education and exercises; to realize that there is more than just one way to the solution in design problems, and to emphasize that there is a dynamic process in every stage of the problem-solution pair.

FINDINGS

Firstly, the perceptual performance in activating the method of “Design like him/her” will be evaluated in a comparative manner. Mies van der Rohe, for example, was chosen, studied and designed by two separate students to create a new architectural product. In the first student’s approach, the concept of “less is more” was brought to the front and the architectural expression language of Mies was plain and simple in terms of style; functional in terms of structure usage; characterized with steel and glass in terms of construction material (Table 2-3). In the case of the second student’s approach, the style was plain, simple, and modern in terms of style; functional in terms of structure usage; and in

terms construction material, a perceptual selectivity of structure bearing and glass was seen. While the first student was designing in the style of Mies, a form of simplicity, flat window, and steel material were included in his design repertoire. The second student used square, rectangular, and prisms derived from them as their own form of mass figuration language in his/her design, and adopted Mies's use of materials such as glass and steel as a selective style. In this way, the students designed through mass figurations with pris-

matic bodies and experienced the limits of the use of materials in their architectural designs. When designing in the Mies style, the first student exhibits a more dependent attitude towards design behaviors such as horizontal extension, partitioning of window openings and the creation of steps over platforms. The second student combined the formal, spatial and structural components that he took from Mies with the knowledge in his mental image (Table 2-3).

Table 2. Outcomes of Questionnaire and Student Evaluations

<p>first exercise</p>	
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second
exercise

third
exercise

Designing in the style of Mies van der Rohe was studied by another student in the fall semester of 2018-2019. This third example consists of a design experience that involves direct imitation rather than an interpretation. The third student sees Mies as a minimalist and thinks that s/he has produced magnificent structures with little material use and simple facade design. The main action points of the third exercise, which adopts the method of direct imitation, are stated as obtaining a leg-

ible plan scheme with the use of less material. Before the third student started his/her new design on the side of the Kızılırmak River, away from the city and on a flat land, it is understood that s/he adequately explored Mies's design decisions such as the use of I profiles and flexible plan organization, and even the preferences in furniture use. The result is an example of a product that shows the effect of the Farnsworth House (Table 3).

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Table 3. A Close View to Final Products of the Designing in the Style of Mies van der Rohe

First exercise

Second exercise

Third exercise

Another student groups investigated designing in the style of Le Corbusier. The first student evaluated Le Corbusier's architectural expression language as plain, simple, and functional and the priority of ferroconcrete as a construction material was emphasized. The first student used ribbon windows, bearing element emphasis, and ferroconcrete system from Le Corbusier's design dictionary in his/

her design and in this choice, an evaluation was carried out through the aesthetic importance of these factors which are the symbol of modern architecture. Thus, a new architectural design with a ferroconcrete system, a roof garden, a ribbon window, and full-empty relationship that was used in a rhythmic manner was experienced (Table 4-5).

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Table 4. Outcomes of Questionnaire and Student Evaluations

first
exercise

second
exercise

third
exercise

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The second student states that the most important factor in choosing Le Corbusier is the innovations of the architect. S/he examined Corbusier in terms of the aestheticization of the concrete and expressive attitude of the load-bearing system and learned to avoid taking unnecessary additions from the architectural design dictionary. The second student tried to use the units and forms in a rational and functional way when designing in the style of Le Corbusier. Clear spatial components have been constructed through plain figuration. Corbusier's design sources such as fluidity, roof garden, separating the mass from the ground, and making the structural skeleton explicit were emulated. Thus, while the first student designed in the style of Corbusier, s/he assimilated Corbusier's design

repertoire by abstraction, while the second student used imitation by developing a design that remained more faithful to the Corbusier's figural dictionary (Table 4-5).

One of the recent practices of the method of "Design like him/her" is also based on the study of Corbusier. The third student stated that the reason for choosing Corbusier was that Corbusier had freed the architecture. The main factor in the formation of this perception is described as the use of concrete by Corbusier. The third student states that s/he has transferred the 5 basic principles of Corbusier's design principles to his/her design dictionary. This case shows itself on the final product as ribbon windows used on the facade and the plan schema raised from the ground with pillars (Table 4-5).

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Table 5. A Close View to Final Products of the Designing in the Style of Le Corbusier

First exercise

Second exercise

Third exercise

Thirdly, in order to design like Walter Gropius, experiments were carried out. The first student evaluated Gropius as a rationalist in terms of style; a functionalist in terms of structure use; and s/he drew attention to the intensity of the use of ferroconcrete system and glass material. The reason why the student chose Walter Gropius was determined as the relation between functional plan constructs, transparency, and permeability. As the first student designed a new architectural style in the style of Walter Gropius, s/he stated that s/he used Gropius's

plain figure sense and rhythmic repetitions. S/he used the architectural language s/he transferred from Gropius's figural repertoire to his/her new design to create a loose spatial structure in a cramped urban fabric (Table 6-7). The second student, while designing in the style of Gropius, states that his/her design behavior reflects Gropius's clear mass approach and the use of concrete materials (Table 6-7). The third student who studied designing in the style of Walter Gropius stated that s/he was influenced by the rational mass organization

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of the architect. S/he interpreted this effect in his/her design as segmentation of the mass/bridging/attachment to the mass. The third student who designed a school as a final product developed an experiment that envisages a separation of mass according to functional differences and connecting communal areas by bridging (Table 6-7).

The group of students researching the design style of Tadao Ando stated that the most important factor in choosing Ando was the architect's minimalist and far-off design behavior. The first student questioned the use of the water element in Tadao Ando's designs and stated that s/he adopted the definition of space that Ando called "haiku effect". Ando's sketches

and the human figures he used in his sketches attracted the attention of the first student. Thus, the first student, as a design source, transferred the landscaping elements such as water and daylight from Ando, and the use of exposed concrete and glass to his design dictionary (Table 8-9). For the second student, Ando is a minimalist in terms of style; a rationalist and a functionalist in terms of the use of structure, and used characterizations with materials such as concrete and steel in terms of construction materials. The second student transferred the architectural language, such as a monumental staircase, use of topography and gradation of mass, from the Ando as a design source, as well as daylight and water elements to his/her own design (Table 8-9).

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Table 6. Outcomes of Questionnaire and Student Evaluations

first
exerci-
se

second
exerci-
se

third
exerci-
se

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Table 7. A Close View to Final Products of the Designing in the Style of Walter Gropius

First exercise

Second exercise

Third exercise

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Table 8. Outcomes of Questionnaire and Student Evaluations

first
exercise

second
exercise

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Table 9. A Close View to Final Products of the Designing in the Style of Tadao Ando

First exercise

Second exercise

The method of obtaining the design knowledge adopted by the student, who tried to design like Mies by directly imitating the architect, emerged in another student among the practices of the method of “Design like him/her”. This approach, which includes direct imitation of design principles, was observed in a student who chose Louis Sullivan. In this

design exercise, Sullivan’s design principles were described as an approach that abstracted the structure from its function and adapted the characteristics of the past styles to the new structure. In line with this description, a direct quotation from Sullivan’s designs is indicated in the survey evaluation (Table 10).

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Table 10. Outcomes of Questionnaire and A Close View to Final Products of the Designing in the Style of Louis Sullivan

The questionnaire and the structures that were taken as an example in the first exercise

Final product

There are also names like Rem Koolhaas in the selection range that extends to the representatives of the modern architectural period until now. In the choosing of Rem Koolhaas that was studied by the students, Koolhaas being an architect ahead of his time was influential in the first student and him designing today's structures drew the attention of the second student. The information came to the front during the constitution of the first design exercise and during the internalization processes were that

the architect did not have a clear style, however, contained impressions such as futurism and soft rationalism; structures of culture and art come to the front in terms of function, and use of glass and steel plate in terms of material. It is emphasized that the design dictionary of the architect is composed of chaotic mass concept and curved/fractured masses and it is stated in the survey evaluation that the first student developed principles such as crevices, strong transparencies, and use of different geometries

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in his/her new design through this figurational language (Table 11-12). The second student, who is working on designing like Koolhaas, states that Koolhaas' design resources that are

internalized by emphasizing the use of modern technology and materials are the concept of innovativeness (Table 11-12).

Table 11. Outcomes of Questionnaire and Student Evaluations

The questionnaire and the structures that were taken as an example in the first exercise

The questionnaire and the structures that were taken as an example in the second exercise

Table 12. A Close View to Final Products of the Designing in the Style of Rem Koolhaas**First exercise** **Second exercise**

Other noteworthy results of the method of “Design like him/her” include practices that attempt to design in the style of Carlo Scarpa, Richard Meier, and Mario Botta. For example, the student who studied designing like Scarpa adopted the idea of stratification from the architect’s architectural design dictionary while creating his/her the design knowledge. In this study, design knowledge was produced in which Scarpa creates different spatial formations by dressing different materials in layers. This approach is considered as a design activity that goes from parts and details to a whole in the new design of the student who has ex-

perienced designing like Scarpa (Table 13-14). A student who studied design in the style of Richard Meier, by adopting the rationalist style of Meier, experienced the combination of square and circular forms in the architect’s figurational dictionary, and the design principles of formal additions and substitutions, as an immanent element in his/her new design (Table 13-14). One student who studied designing like Mario Botta transferred design principles such as bricks in terms of construction material and symmetry in terms of plan schema from Botta to his/her own design (Table 13-14).

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Table 13. Outcomes of Questionnaire and Student Evaluations

The questionnaire and the structures that were taken as an example in the first exercise (Carlo Scarpa)

The questionnaire and the structures that were taken as an example in the second exercise (Richard Meier)

The questionnaire and the structures that were taken as an example in the third exercise (Mario Botta)

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Table 14. A Close View to Final Products of the Designing in the Styles of Carlo Scarpa, Richard Meier and Mario Botta

First exercise (Carlo Scarpa)

Second exercise (Richard Meier)

Third exercise (Mario Botta)

DISCUSSION

It can be asserted that design is a performance of a creative process driven by logic and thus, it is about experimentation rather than result (Charalambous and Phocas, 2013: 290). This experimental practice, called “Design like him/her” employs analogy and adopts an open process structure. Also, Akın (2002: 409) states that the important distinction be-

tween learning in traditional academic disciplines and learning design is the directing of the students to the corpus of desired results rather than the principles or theories. In other words, it is necessary to measure the applied performances of new learning/teaching methods on the design by creating experimental approaches instead of systems which transfer architectural examples and theories and design principles. In this context, the method of

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“Design like him/her” is a skill development approach that is experimental and based on the performance in design. This method sets out with the belief that design practice and research in architecture education should not be limited to architectural studios, and that the ability to design differs from the architectural studio experience, albeit the similarities. The method of “Design like him/her” emphasizes that the fundamental issue in architectural education is to improve the ability to design and to develop a high perception capacity and it should be carried beyond the architectural studios. Considering that the outcomes of the basic design education taken in the first year cannot be easily transferred to the upper projects, the method of “Design like him/her” is an experimental method on the activity in design that can be diversified as a design research and practice and can be applied at any level of architectural education.

Other than the architectural studios, an application opportunity that relies on design research and relies on design with the knowledge obtained from this research is presented via the method of “Design like him”. The architecture students were expected to create their own designs by studying the works and the architects that are widely known in the literature through processes such as assimilation/homogenization/interpretation. In the light of the findings obtained above, it was

determined that architecture students developed different design practices in the process of internalizing the sketches of famous architects and studying their principles of design with an analogical approach. In the method of “Design like him/her” that was created to develop the skill to design, it was revealed that each student developed certain approaches in the stage of producing the design knowledge of the architect they studied. Based on the findings, the only common method between these approaches is to remain loyal to the chosen architect in terms of site selection and function. In the choice of where the final product will be designed and about its function, the attitude of the famous architect was quoted directly. For example, all the students who studied designing in the style of Mies and Corbusier designed houses in a remote area. Although Mies’s other faculty buildings such as the Reichsbank in Berlin, the Illinois Institute of Technology in Chicago, or the other buildings such as the Seagram building in New York were examined, the Mies’s Farnsworth House was cited in terms of function, material, plan setup, and facade setting. Similarly, while studying Corbusier’s structures with different functions such as Unite d’Habitation, the parliament building in Chandigarh or Ronchamp Chapel, it was the Villa Savoye that the students chose for their source for learning the design principles of Corbusier. In other words, the common de-

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sign attitude among the students of architecture was determined as a direct quotation of figure, material, site, and function through the architect's most famous design.

These are the other design approaches that are highlighted by the activation of perceptual performance in design: 1) the approach that interprets the relation between mass-material-planimetric construct-facade setting inspired by figural repertoire and that obtaining a new design by adding subjective values to the extracted information, 2) the approach that includes in own design distinct elements such as image of staircase-water element-stratification-landscape by quotation, 3) the approach that imitates all figurational-spatial-stylistic elements directly. For example, the final results that were designed in the styles of Mies-Corbusier-Gropius-Botta were formed with basic principles in accordance with the famous architects' design principles. While the organization of mass, figurational language, and use of material were included in the new design with distinct contents, plan and facade setting were subject to partial subjective interpretations. On the other hand, in the products designed in Ando-Koolhaas-Scarpa-Meier style, the superiority of the use of the elements that best represent the design of the famous architect is clearly observed. It has been determined that the design principle of a staircase image or stratification is treated

as a piece of design information. The contents reinterpreted by subjective evaluations carry more abstract relations than the other examples. It is evident that in the examples that were in Sullivan-Mies style has a design language imitated directly.

In the method of "Design like him/her, the approaches applied by the architectural students towards analogy, in a sense, bring a certain clarity to the synthesis part of the design methodology outlined by the analysis-synthesis-evaluation stages. In a study that states that disconnection or deficiency occurs on the road from knowledge to form in architectural design stages, it is argued that this causes not being able to create a meaningful relationship between the accumulation of the conceptual process and the form obtained at the end of the application (Erman and Yılmaz, 2017: 97). In the method of "Design like him/her", the approaches identified by the architectural students as design studies represent the synthesis stages in the process from concept to form and make the relationship between concept and form meaningful. One of the effective parts of this process is the perceptual performance of the architecture student; that is, to what extent the dynamics that make up the perceptual selectivity are activated and the usage of the ability to choose and process the knowledge required for designing. During the design research, verbal communication,

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decision making, teamwork, negotiation, leadership, and criticism are the mechanisms that develop a design and point out emotional intelligence, just like in the architectural studio (Sezer, et al., 2016: 169). In the method of “Design like him/her”, tools such as negotiation, internalization, communication and critical view of the architectural students with the designs and design approaches of the famous architects determined the quality of the process leading to the subjective design of the student. So much so that, as the findings show, some students chose to quote directly, while others reframed the design knowledge they cited.

CONCLUSION

Apart from the architectural studios and in addition to them, the method of “Design like him/her”, an experimental practice to increase the skill to design in architectural education, is a practice that teaches how to obtain design knowledge. The method defines an experimental area which consists of the characterization of design principles and sketches by assimilation/analogy/interpretation methods and the collection of these and subjective design attitudes. The result that the findings reveal is that a new interpretation could not be made in this study that was carried out for three terms that included the process of imitation/origination/inspiration of famous architects. On the contrary, imitations

have emerged which are very similar to the sketches and design principles of the famous architects. Formal-spatial-stylistic selectivity has not been enough to produce a new design knowledge, perceptual performance in design has evolved around the dominant character of the architect or design. The students of architecture who experimented the method of “Design like him/her” have reached the final products without going into any abstractions. However, as a result of the fact that they encountered an example of design research and practice other than architectural studio applications, they experimented both internalizing the distinctive principles and an effective design practice in addition to their projects.

SUGGESTIONS

The method of “Design like him/her” is an experimental method that can be applied outside and in addition to the architectural studios in the form of a design exercise. Similarly, it can also be used as a method for producing design information, as it has content that can vary the design resources of the architecture students. Instead of leaving a design practice that s/he sees in the field of theory and information, creating a design knowledge by studying this practice and using this as an analogical method that delivers to a new architectural work will help to carry out a more effective teaching/learning in the architecture

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education, for example in theoretical classes such as the History of Architecture.

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