Abstraction as a Tool of Creative Thinking in Architectural Education: Basic Design Studio Outcomes

Mimarlık Eğitiminde Yaratıcı Düşünme Aracı Olarak Soyutlama: Temel Tasarım Stüdyosu Çıktıları

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ÖZ

Mimarlık eğitiminin genellikle birinci yılında yer alan temel tasarım dersleri, öğrencinin daha sonraki yıllarda ele alması gerekli olan bazı sınırlılıklardan bağımsız olarak özgürce düşünüp tasarım yapabileceği bir ortam oluşturmaktadır. Bu sebeple, temel tasarım stüdyoları genellikle farklı disiplinlerle kurulan arayüzler aracılığıyla mimarlık öğrencilerinin alıştıkları düşünce kalıplarından sıyrılıp değişik bakış açılarını görmesi üzerine inşa edilmiş içeriklere sahiptir. Bu çalışma; soyutlamanın yaratıcı düşünme aracı olarak kurgulandığı bir temel tasarım dersinin sonuçlarını ortaya koymaktadır. Tasarım sürecinin de aslında yeni bir bilgi üretimi olduğundan yola çıkarak, öğrencilerin tasarım yolculuklarını ve sonuç ürünlerini veri olarak kullanmaktadır. Problem kurgusu, klasik sanat objelerinin soyutlanarak önce iki boyutlu tasarımlara dönüştürülmesi ve sonrasında mekanlaştırılarak mimari ifade teknikleriyle ifade edilmesini kapsamaktadır. On öğrencinin tasarım deneyimine odaklanan çalışma, soyutlamanın mekan üretimi için yaratıcı düşünme aracı olarak yapılandırıldığı bir tasarım denemesini tartışmaktadır.

Anahtar Kelimeler: Mimarlık Eğitimi, Mimari Tasarım, Temel Tasarım, Soyutlama, Yaratıcı Düşünme

ABSTRACT

The basic design courses, which are usually in the first year of architectural education, also provide an environment where the student can think freely and design independently of some of the limitations. For this reason, basic design studios usually have content built upon the way architecture students try different thinking patterns and see different perspectives through interfaces established with different disciplines. This study presents the results of a basic design course in which abstraction is constructed as a creative thinking tool. Based on the fact that the design process is actually a new knowledge production, it uses students' design journeys and creative products as data. The design problem that forms the framework of the article is the abstraction of an art object and its transformation into an architectural space. This process consists of three stages: conversion of a selected classical painting into a two-dimensional graphic design by abstracting it, turning two-dimensional graphic into a three-dimensional space with various design actions and its graphic expression. Focusing on the design experience of ten students, the study discusses a design experiment in which abstraction is structured as a creative thinking tool for the production of space.

Keywords: Architectural Education, Architectural Design, Basic Design, Abstraction, Creative thinking

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INTRODUCTION:

Creating something new or improving an existing concept in science and art is a very dynamic process that requires various skills and knowledge. Creativity, which can be defined in a wide spectrum (Gür and Durmuş, 2012), can sometimes be equated with 'innovation', sometimes with 'entrepreneurship', and sometimes with 'problem solving' and 'performance' (Reid and Petocz, 2004). Csikszentmihalyi (1990) associates creativity with exploration rather than solution. However, recently there has been a general consensus that creativity includes the production of new and useful products (Mumford, 2003). Thus, it is possible to define the creativity, both at the individual and social level, as 'the ability to produce work that is novel, high in quality, and appropriate' (Sternberg et al., 2005).

Creative thinking, though, is explained as 'the thinking that enables people to apply their imagination to generating ideas, questions and hypotheses, experimenting with alternatives, and to evaluating their own and their peers ideas, final products and processes' (Kampylis and Berki, 2014). It can be seen as the power to play with the existing resources in order to achieve a better one. In other words, creative thinking is to consider events, situations or problems from a different perspective. Therefore, according to Swede (1993), creativity can be seen as the power to reveal the nonexistent through creative thinking and is related to a process rather than an outcome.

Architectural education includes many different types of formation. In addition to technical and vocational teaching, it is aimed at providing students with artistic and intellectual knowledge and creative thinking skills so that they can create spaces that will meet the needs of a particular user and simultaneously consider various spatial dynamics such as functionality, durability and aesthetics. In this sense, the design studios, which form the main backbone of education, are set in such a way that the student experiences architectural design, which consists of quite complex cognitive processes. Architectural design is a non-linear flow that constantly oscillates between instinct and learned knowledge, and includes many different actions from creation to research, from experimentation to persuasion. In addition to all these, the architect may have to overthrow the existing design elements and principles and produce new ideas and new perspectives. For this reason, creative thinking exercises are some of the most important parts of architectural design education (Schön, 1983; Ayyıldız Potur and Barkul, 2006; Casakin et al., 2010; Biçer Özkun, 2017; Yasar, 2020).

This article presents an example of the use of abstraction as a thinking tool that triggers and encourages creativity within the scope of the basic design studio course, which provides an environment for creative thinking in architectural design. The main purpose of the study is to show the potential of 'abstraction' in the process of creating new and original ideas by using the imagination, to offer interdisciplinary intersections that lead from the starting point to the design product by using and transforming existing data as a way of generating new knowledge. In this context, the study focuses on the design problem posed within the scope of the Basic Design Studio course in the spring semester of the 2021-2022 academic year in the Department of Architecture at Beykent University. The outcomes are the spatial designs developed by ten students who regularly participated in this study that lasted six weeks of the course and experienced entire stages. The study considers the process that was constructed during the course as a design experiment. The outcomes offer an alternative way of introducing students to creative thinking in the first year of architectural design education.

1. **Basic Design Studio: A Medium for Creative Thinking**

Basic design studio, in which first year architecture students encounter the design action for the first time, is usually based on the Bauhaus teaching and is set to provide art and craft education by experiments with color, form and material (Bayazıt, 2008). It mostly includes abstract researches and

studies without any functional limitations (Sözen and Tanyeli, 1992). In fact, because of its classical setting, this course brings the relations, common rules and methods of various branches of art together (Fiedler and Feierabend, 2000; Canbakal Ataoğlu, 2015). This course is also an important medium in which imagination is triggered. In the basic design studio, it's aimed to give the student the ability to develop new and original ideas and to express them eloquently. For this purpose, a suitable environment must be created for students to think creatively and make unique design experiments.

As in all design courses, there is no compulsory or absolutely necessary teaching method in the basic design studios. Thus, the coordinators try various creative methods for novice students to produce architectural designs by using their imaginations (Caner Yüksel and Uyaroğlu, 2021; Hsieh et al., 2021). In some schools, there are studies on the built environment through form, material and texture, while in some schools, conception-, perception- and expression-oriented contents are encountered (Sarıoğlu Erdoğdu, 2016). Besides, there are also basic design courses that aim to bring abstract and perceptible thinking skills together (Kuloğlu, 2017). Whichever method is adopted, it is essential in this course to introduce students to creative thinking, which is an important part of design. At this point, 'abstraction' emerges as a tool of creative thinking.

1.1. Abstraction: A Tool for Creative Thinking

Abstraction is defined in the dictionary as 'the mental operation that deals with any of the properties of an object or the relations between its properties' or 'separating in thought what is inseparable in reality'. Abstraction in art is based on 'an object, figure or landscape, where forms have been simplified or schematised' (Tate, 2022). So abstraction in art occurs when 'an artist has either 'removed elements from an object to create a more simplified form' or produced something which 'has no source at all in external reality' (Ideelart, 2015).

Abstraction in the field of design follows a similar process to that in art. The designer first determines what is to be abstracted. This can be an object, an image, nature itself, or even a concept. Then the designer analyzes the resource and determines how to abstract it. This is the process by which the designer transforms the source by interpreting it with imagination. In this way, the resource is recreated through the creative thinking process. The purpose of abstraction by designing is to simplify, exaggerate, or deconstruct reality to reveal the potential to create something else.

This is exactly why, as Lenoir underlines (2003: 195), abstraction makes it possible to create new and original things, rather than accepting the existing world as it is and not bothering to change it. This creation embodies the imagination, worldview, personality and even inner world of the designer. In short, abstraction, as a creative thinking tool, enables the designer to see something differently, evaluate it and create something new.

Abstraction is also used in architectural education, which requires seeing multiple solutions with alternatives, to raise creative individuals with critical thinking ability and aesthetic perception (Kaya, and Aytis, 2019). It has been a method that has been used many times before, especially in basic design courses, where students are introduced to the production of space for the first time, in terms of comprehending the relationships between concept, image and space.

For example, Uysal (2017) shared the results of the basic design course he conducted with his colleagues. Within the scope of the course, he explained that a black-and-white portrait was first treated as a visual data set, analyzed through light values, and abstracted through points, lines and planes. In the following stages the students were asked to geometricize a form they chose from nature, subject it to structural analysis, and present it in a three-dimensional pattern. These exercises allowed

students to perceive and analyze an existing thing as a visual or spatial dataset and transform it using the basic elements of the design.

Ghom (2017) also used abstraction as a creative technique to facilitate nature. Within the scope of the course, the students were asked to abstract and spatialize first the natural elements and then the visual compositions they liked. The author drew attention to two basic steps in the abstraction process that she constructed to produce space. These were the two-dimensional design obtained after various procedures such as simplification, fragmentation, exaggeration, condensation or deconstruction of the selected source, and then the three-dimensional design in which the space production took place.

Durmuş Öztürk, Beşgen and Kuloğlu (2018) focused on Anatolian carpets within the framework of their lessons and enabled students to create new designs by first analyzing this cultural value and then abstracting it. Altanlar (2018) on the other hand dealt with the act of abstraction at the urban level. She designed a problem that allows students to perceive, read, conceptualize and express the urban space in creative ways. The exercise was created in such a way as to allow students to grade abstraction from object to urban scale. As a result of these exercises, the city was read, interpreted and conceptually expressed without being detached from its historical, cultural, socio-economic and physical context.

2. Definition of the Problem and Design Method

At Beykent University, Department of Architecture, Basic Design Studio classes are held for four hours a week in the first semester of the first year. In the fall semester 2021-2022, the semester is mainly divided into two parts. During the first six weeks until the midterm exam, students were taught basic design elements and principles. At the beginning of each week, the basic design elements (point and line, shape, form, color, light and shadow, texture) and principles (rhythm, movement, ratio, scale, hierarchy, balance, symmetry, harmony, emphasis, contrast, integration, dissociation) selected for that week were explained with various examples and several references like Ching (2007), Ching and Binggeli (2017), Lauer and Pentak (2008), Seylan (2019) and Güngör (2005). In the continuation of the course, the design assignments given to the students about the elements and principles explained in the previous week were discussed with the participation of the instructor and other students.

In the second part, which lasted six weeks after the midterm exam until the final, a three-stage design problem (Figure 1) was created to trigger students' imagination and build a process that allows them to go through the stages of creative thinking rather than focusing on the final product. The definition of the problem is 'to produce a three-dimensional space based on a non-abstract painting and to present this space with architectural expression tools'. The main purpose of this task is to encourage the student to think creatively and open-mindedly in the process of producing something brand new by being inspired by a certain root; to expand the spectrum of inspiration by creating interdisciplinary interfaces; and to develop students' intuition at the stages of abstract thinking, interpretation, transformation and expression. Thus its aim is that the architectural candidates who have never had a design background before become accustomed to making unique experiments in the face of a design problem.
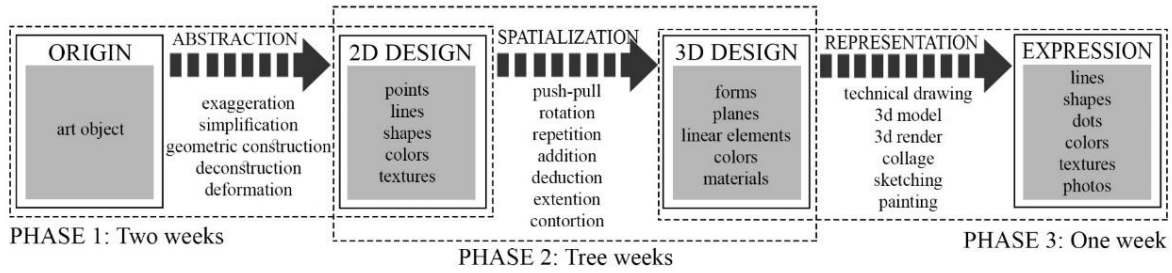
Figure 1. Design process within the scope of the basic design studio

Transforming a painting into a space by interpreting it or producing a space inspired by this object is not a method tried for the first time. There are various previous examples regarding this subject: the paintings of Piet Mondrian, Kandinsky, Kasimir Malevich, Lajos Von Ebneth, El Lissitzky and Otto Herbert Hajek are among the most interpreted works (Garcia, 2009; Gür and Kuyumcu, 2014; Çiçek, and Kaya, 2016; Kuloğlu, 2017). Among the greatest benefits of choosing an art object in such applications are the strengthening of the relationship between architecture students and art, the students' perception of the artists' points of view, perception of the concept of aesthetics, and learning how to successfully construct design elements and principles (Kuloğlu, 2017).

However, all the works mentioned above are based on art works with intense abstract or geometric shapes. Interpretation and spatialization of a painting containing a classical figure is one of the original aspects of this study. The painters that students could choose were determined as Leonardo da Vinci, Rembrandt van Rijn, Osman Hamdi Bey and Bedri Rahmi Eyüboğlu. In this way, students were asked to research different artists with both international and national recognition and to see different perspectives. All students were free to choose their favorite work after researching and examining all the painters' works.

The first phase of the design problem, which lasted two weeks, was to select a painting by a designated painter and abstract this work using techniques such as geometric (re)construction, simplification, exaggeration, deformation and deconstruction by playing with variables such as color, texture, dimension, scale, orientation, position and visual inertia. Thus the selected art object was analyzed and interpreted on the basis of design elements and design principles. During this period, the students worked at home and in the studio, and received criticism from both their coordinator and their classmates. The two-dimensional design obtained at the end of the process formed the starting point of the second stage of the assignment.

The second stage lasted three weeks; meanwhile, students produced a three-dimensional space based on the two-dimensional design they had already created. It was not obligatory to define any function for the space. However, some students insisted on associating the space with a function, thinking that it helped them. In this process, students created three-dimensional forms with various actions such as pushing-pulling, rotation, repetition, addition, deduction, extension and contortion. Also at this stage, students worked both at home and in the studio and received criticism.

In the last stage, which lasted for one week, the designed space was expressed and presented through technical drawings, hand sketches, watercolor paintings, three-dimensional renderings and collages. The presentations were aimed at reflecting the place where the space was imagined and the relationship with the original painting.

3. Design Process and Outcomes

There were some difficulties in the first two stages of the design process, which took place with the regular participation of sixteen students in total. In the first stage, the students did not fully grasp the concept of abstraction at the beginning. They attempted to redraw the paintings or create new and completely different drawings with the emotions that the painting engendered in them. In addition, students were confused about how to incorporate the design elements and design principles they learned during the first six weeks of the course into their production phase.

At this point, students were shown examples made with different abstraction techniques, and clues were given on how to analyze the composition and how to create design dynamics from it. After these briefings, the students mostly geometrized the classical paintings they chose. They also made simplifications or exaggerations in dimensions while analyzing figures. Some students deconstructed the geometric components by sticking to the general idea.

Students who passed the abstraction stage successfully imagined the two-dimensional design as a top view or a side view while transforming it into a space. Students who accepted abstraction as the side view were able to think more creatively in building forms. However, abstraction was accepted by more students as a top view. Sometimes students preferred to leave some elements as two-dimensional and be selective for the elements to be three-dimensional. Textural and/or color changes were seen in almost all designs.

At the second stage, the students faltered while adding a third dimension to the abstractions. They had difficulties in combining points, lines, or planar elements with each other to form an aesthetic integrity. These two problems were associated with the fact that the students had never previously worked on three-dimensional objects and consequently did not have enough design-geometry knowledge. Again, one of the important details identified at this stage was that students had difficulty in expressing designs they imagined with sketches and models. There was a long trial and error process in the selection of materials, colors and textures on which the designs would be made.

In the final stage, the students had the most difficulty while creating the collage. They made mistakes while adding people and landscape at the correct points and sizes to their models and renderings. This situation can be explained by the fact that first-year students do not have sufficient knowledge of the computer programs they use, and they are only acquainted with the concepts of human-space relation and scale.

The design experience of the ten most successful students among the sixteen students who regularly participated in the process is presented below. In accordance with the law on the protection of personal data, codes and name abbreviations were used instead of full names when presenting students' work.

The first student (S.A.) chose a Bedri Rahmi Eyüboğlu painting, depicting a female figure in traditional clothing. During the abstraction stage, she geometricized the figure by playing with its original dimensions and thus deformed it. Later, by accepting the two-dimensional work as the top view, she designed colored shells consisting of repeating surfaces added to each other. She raised these shells on carriers and imagined the lower part as a semi-open space. The several voids created in the shells ensured that the space receives different degrees of light. In the final stage, the student expressed her design with a colored technical drawing and a collage created by 3D-rendering (Figure 2).
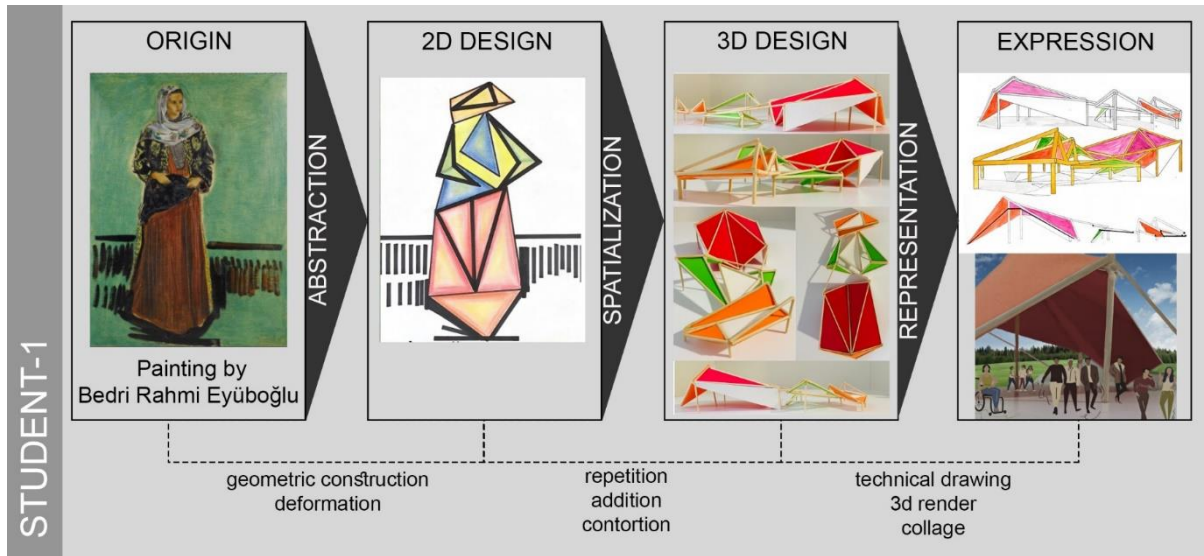
Figure 2. Design experience and outcomes of Student 1

The second student (E.C.A.) chose the famous 'Last Supper' painting by Leonardo Da Vinci. She has geometricized the figures eating at the table, the table and some of the dominant spatial elements in the background by exaggerating the proportions. Human figures are mostly triangulated and deconstructed. Afterwards, she considered the two-dimensional design as the side view and designed shells articulated to each other. The shell structure was sometimes rised on feet and sometimes brought into contact with the ground. Closed and semi-enclosed volumes are imagined under the shell. The student preferred to describe her design with hand drawings and with a collage she created from the model (Figure 3).
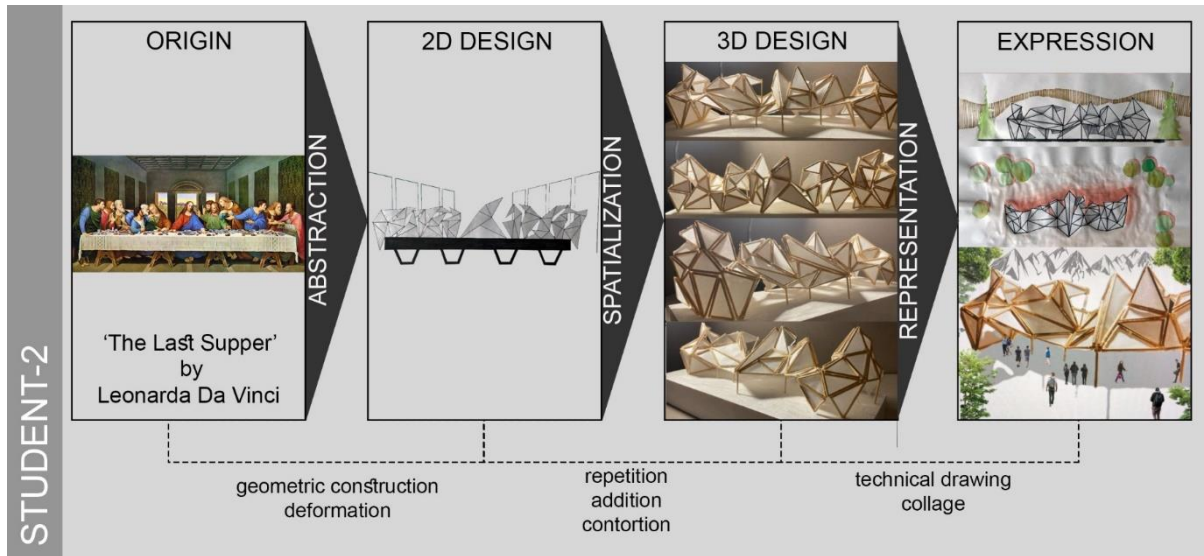
Figure 3. Design experience and outcomes of Student 2

The third student (S.H.) chose Rembrandt's self-portrait. She simplified this painting with very realistic details and turned it into a stamp. Later, she imagined this abstraction as the top view of her space and created a design idea based on color tones. She created a space with light and air permeability by repeating linear elements that become more frequent in dark parts and sparse in light parts. She imagined a cylinder in the area where the face was and integrated this regular form with linear elements. At the last stage, the student expressed her design with technical drawings and with a collage created with her model (Figure 4).
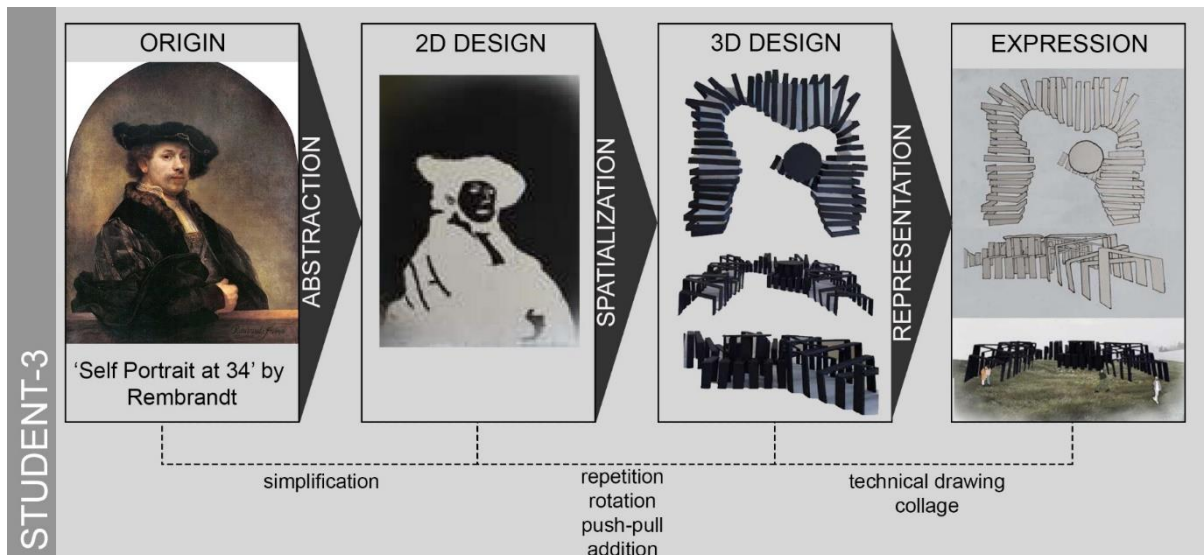
Figure 4. Design experience and outcomes of Student 3

The fourth student (D.A.) chose Rembrandt's famous painting 'The Storm on the Sea of Galilee'. She geometricized and deconstructed the painting in order to simplify the realistic details in this painting. In this way, she created design elements that can be transformed into spaces. Later, she accepted the dominant element of the two-dimensional design as the top view and created a form consisting of permeable and opaque surfaces. Other shapes are mostly left as two-dimensional elements appearing on the ground plane. At the last stage, the student expressed her design with the collage created on a hand drawing and model (Figure 5).
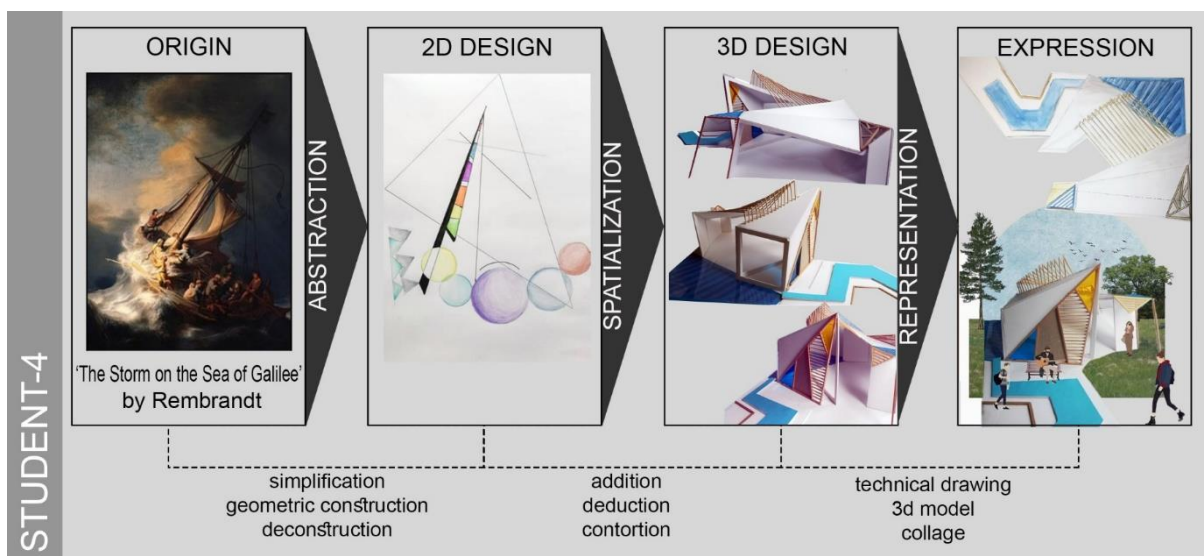
Figure 5. Design experience and outcomes of Student 4

The fifth student (B.E.) chose the 'Vitruvius Man' by Leonardo Da Vinci. The student geometricized the human figure and simplified it. She also deformed the dominant geometric shapes in the painting by playing with their proportions. Considering the two-dimensional design she created as the top view, she created a space that consists of a gradually rising circular surface and various geometric elements added to it. She imagined her design in a crowded square with tall buildings and prepared collages describing this view (Figure 6).
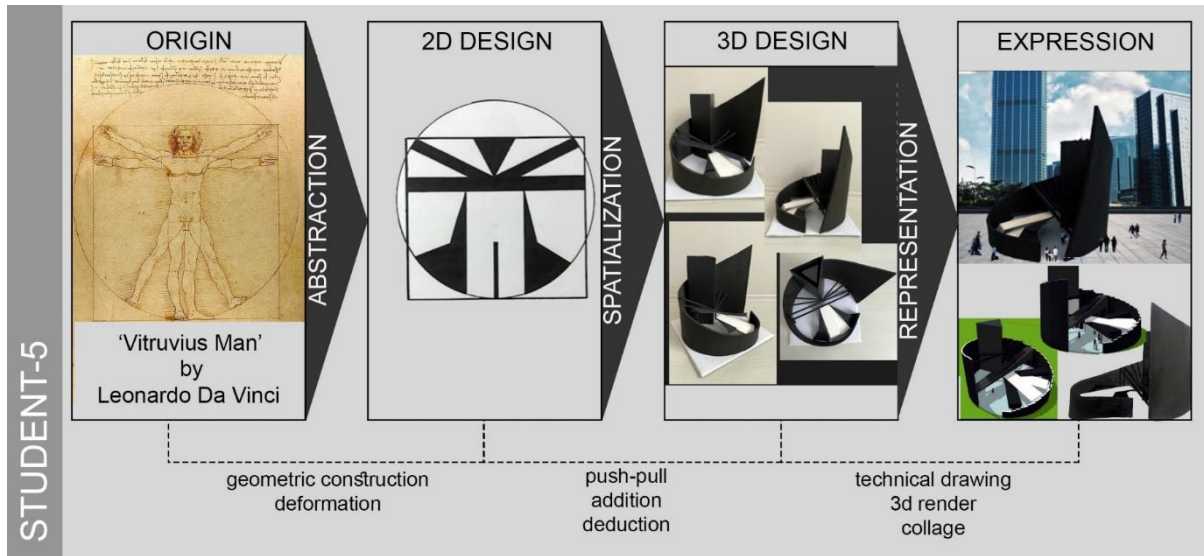
Figure 6. Design experience and outcomes of Student 5

The sixth student (B.A.B.) chose the painting 'Salvator Mundi' by Leonardo Da Vinci. He simplified and geometricized the figure. Later, by accepting this image as the top view of the space, he created a form in which closed and semi-closed volumes integrated with each other. He chose to consider the prominent shapes in his abstraction as the main structural elements of his space. The circulation in the open space was constructed with ramps. He expressed his design with technical drawing and collage. While creating his collage, he imagined his form in a place where natural elements are intense. He also benefited from 3D rendering (Figure 7).
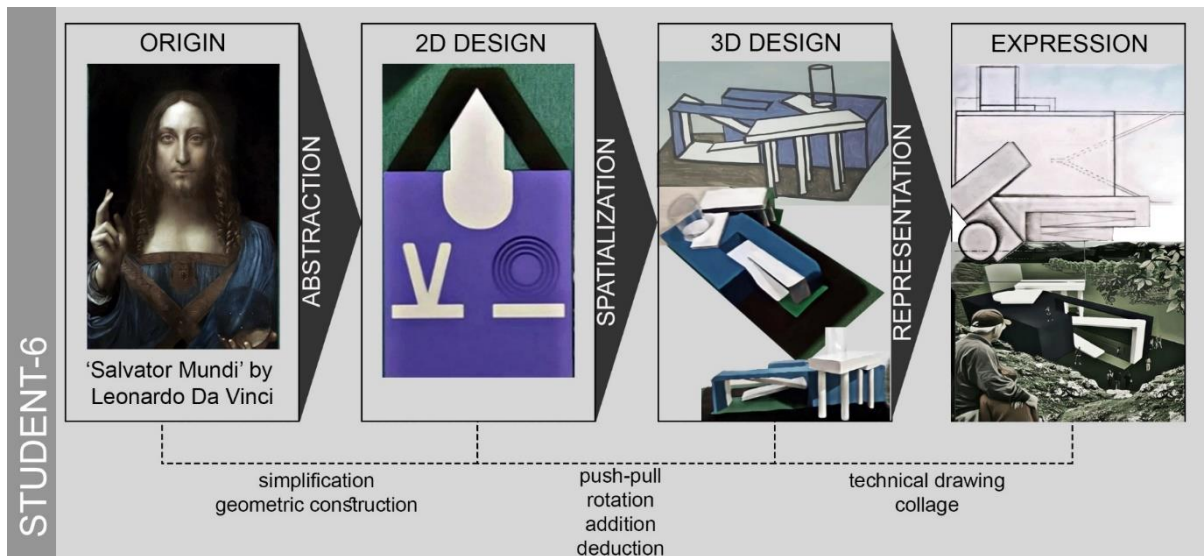

Figure 7. Design experience and outcomes of Student 6

The seventh student (S.L.) chose Osman Hamdi Bey's painting depicting an Istanbul lady. The student geometricized the female figure, exaggerating the proportions and deforming the geometric articulation while doing this. She interpreted the fold details of the dress by increasing the number of triangles she produced. Later, she accepted this image as a top view and formed a shell consisting of triangular planes of various colors. She did not cut the contact of the shell with the ground but built access points to the sub-shell area with several side openings. In the last stage, the student expressed her design using only hand drawings and model photographs (Figure 8).
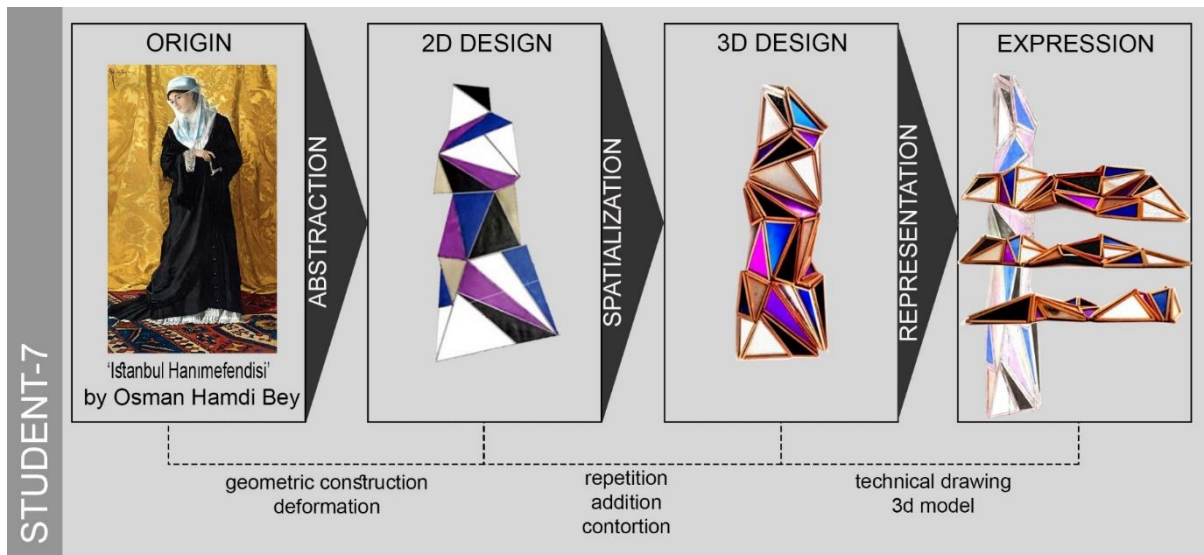
Figure 8. Design experience and outcomes of Student 7

The eighth student (R.Ü.) again chose Rembrandt's 'The Storm on the Sea of Galilee'. The student made abstraction by simplifying the details in the painting and exaggerating the hue. Later, by accepting the sailboat and the sea as two separate spatial components, she designed a tower that protrudes from a shell. The organic form of the shell and the geometric structure of the rising form created a contrast to each other. In the last stage, the student chose to present the design with collages she created using model photographs (Figure 9).
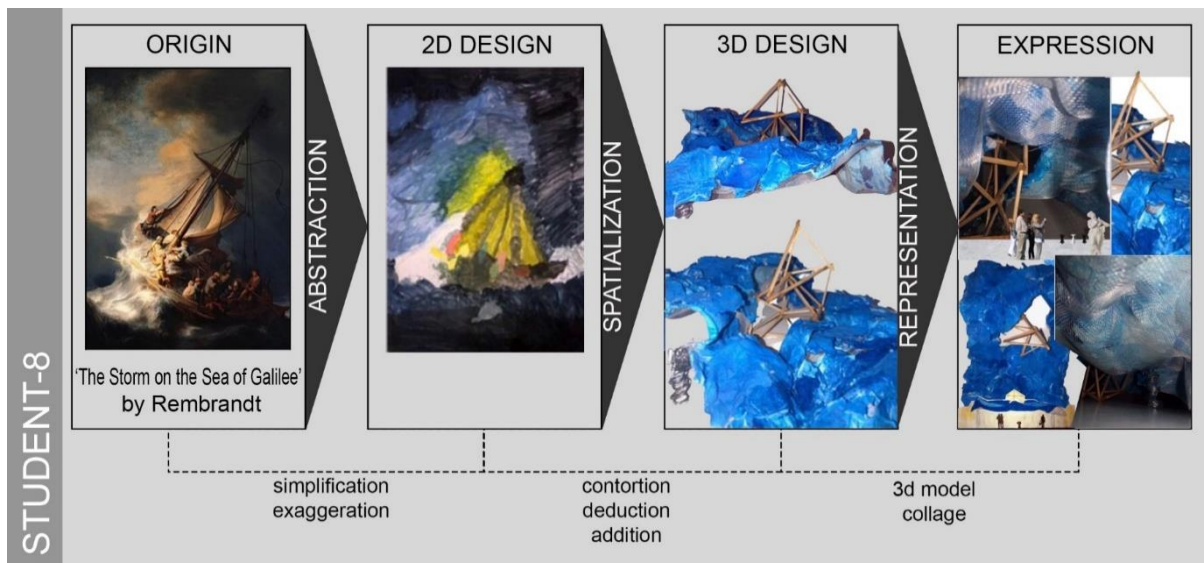

Figure 9. Design experience and outcomes of Student 8

The ninth student (D.D.) chose Osman Hamdi Bey's work entitled 'The Tortoise Trainer'. She simplified highly detailed figures and reconstructed them geometrically. Unlike her other classmates, she did not use any color in her abstraction. Considering the abstracted image as the top view, she designed shells that surround a space and form semi-open volumes. At this stage, the student preferred to leave some shapes in the image as two-dimensional traces on the floor. Lastly, she presented her work with technical drawings and a collage produced from her model (Figure 10).
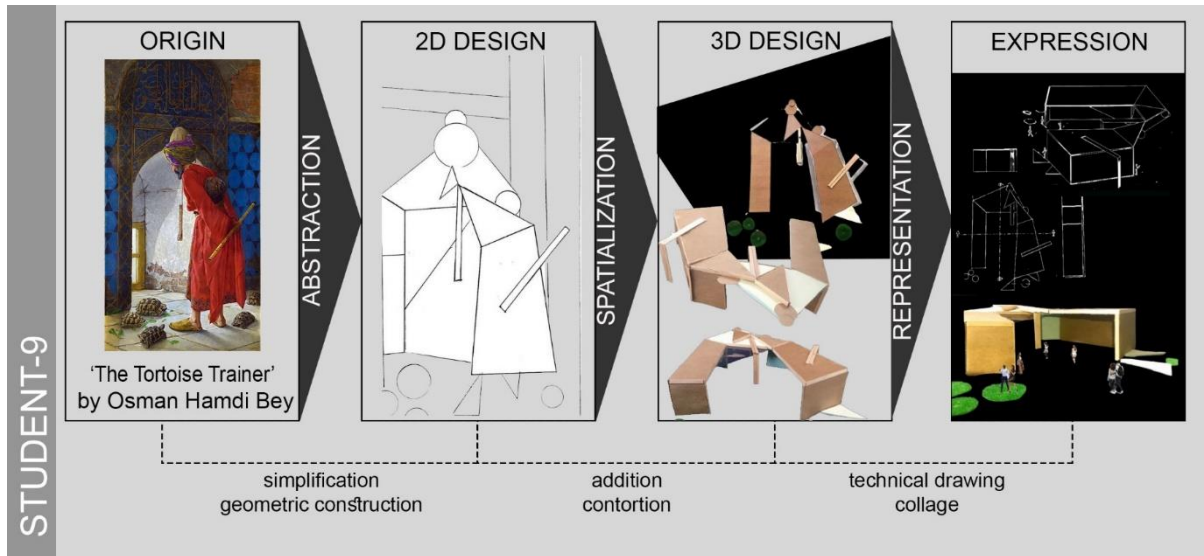
Figure 10. Design experience and outcomes of Student 9

The tenth student (S.B.) chose Rembrandt's 'Syndics of the Drapers Guild'. He first simplified the figures sitting around the table and then reconstructed them geometrically. He chose the figures and the table as the dominant elements and exaggerated the color differences. However, the student could not reflect this contrast to the space design and did not use the color that would have established hierarchical superiority in the space. He imagined his abstraction as the top view and designed surfaces that protrude from a regular prism at various elevations. These surfaces are accepted as the canopies circulation elements and as canopies creating semi-open spaces added to the main space. In the final stage, the student presented his design with technical drawings, perspective drawings and collages made with model photographs (Figure 11).
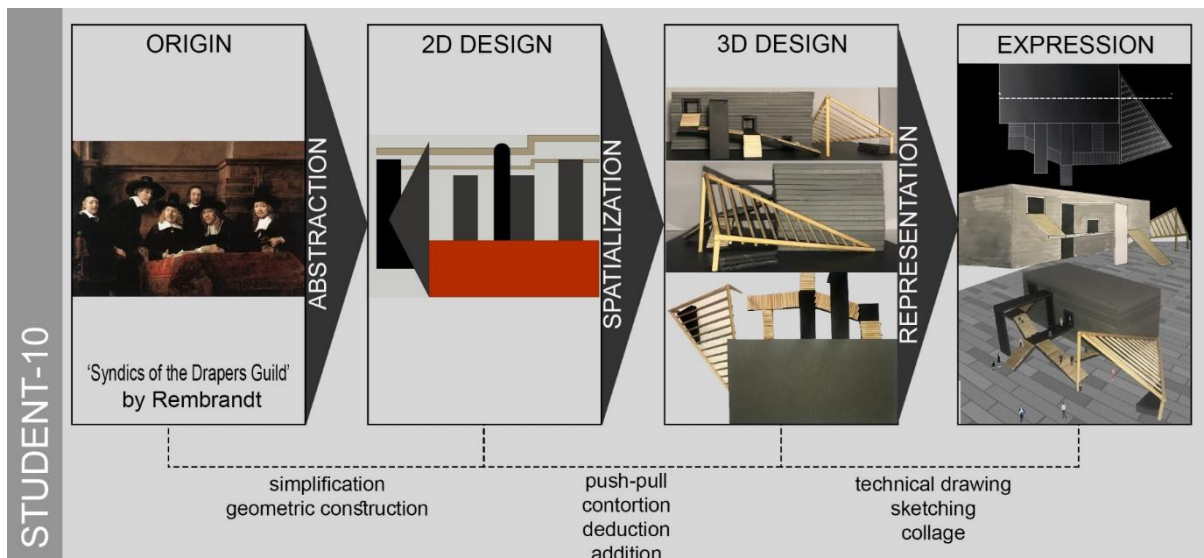

Figure 11. Design experience and outcomes of Student 10

4. Findings

In order to prepare the students for the design problem and to introduce them to the basic design inputs, a theoretical and practical program was followed in the first six weeks of the course. In this process, students performed intensive design exercises on the design element and principle they learned each week. In the last six weeks of the course, students were asked to produce a solution to a

design problem in which abstraction was at the forefront by using these basic design elements and principles they learned.

Overall, it can be said that this design experience created positive outcomes for both the students and the instructor, supporting the findings of other researchers. From the verbal feedback received from the students at the end of the course, it was understood that this method, which was quite difficult and incomprehensible at first, gave them a new perspective and that they enjoyed the process. According to the same feedback, the students had the most difficulty in the abstraction phase, and it was the first time they experienced interpreting a painting without involving their emotions. As a result, the spaces they produced were surprising for them and encouraged them to design.

The ability to control the transition between abstract thought and physical creation was one of the main achievements of the students in this process. Analyzing a detailed picture that reflects reality as it is and transforming it into an abstract narrative, and then producing a space from this narrative that is also a physical reality, provided a good opportunity to encounter and solve the challenges of the dialectic of these two opposites.

The abstraction phase was one of the biggest challenges that the students faced during the process. Students have understood that in order to refine an image, where details are quite realistic, and to separate it into its basic geometric components without disturbing its visual integrity, it is necessary to have a good command of design elements and principles as well as knowledge about visual perception, visual construction and deconstruction. At this point, students have also discovered their potential to generate different design options by adhering to an particular existing order. They resorted to tricks such as identifying the main and auxiliary elements that describe the image, choosing the right geometric shape to represent the figure or the ground, deconstructing geometric elements, understanding and interpreting the relationship of parts with the whole, and even exaggerating the geometric construction if necessary. Those who mastered this process succeeded to imagine shapes in a two-dimensional image as potential design elements of a space. The less successful students either failed to maintain visual integrity or failed to create elements that direct the designer to the formation of the space.

The second challenge faced by the students was to transform the abstract image into a three-dimensional physical space. They experienced design problems that challenged them such as the construction of open, semi-open and closed spaces, the creation of different elevation differences and combining them with a structural element, the construction of different shells. At this point, the transformation of shape into form, the combination of different forms, and articulation details were the determining factors. The most common mistakes made by students who did not manage this process well were not being able to construct the relationships between the determinants of space, not being able to capture a dynamic and balanced whole while creating a three-dimensional spatial composition, and ignoring the three-dimensionality of space. On the contrary, those who were able to analyse and plan the process designed balanced and exciting spatial designs by making proper use of the planar, point-wise or linear clues obtained from abstract work.

In the third stage, students experimented on how they could represent their own designs in the most impressive way by using expression techniques such as drawing, making collage and rendering. At this point, they have especially realized that model making is a part of three-dimensional thinking rather than just a representation tool. It was observed that the students who managed the model production correctly had less difficulty at this stage, were able to produce images from their models, and made fewer mistakes while making technical drawings. This situation underlined once again that the model is an integral part of design education. It was also observed that the collage technique created quite

different opportunities for students to show how they imagined their designs in a context, and that students had the most fun while making collages.

Thanks to this design problem, students learned the relationship between architecture and art; that all elements related to life have the potential to trigger creative thinking, the concept of aesthetics; creating data that would start the design process; and creating space with linear, planar and point elements. They experinced perceiving, interpreting and even building a formal composition. In addition, encountering a design style that they had never thought of before prompted students to think about design approaches and creativity. Composing forms freely without the limitations that they will encounter in the later years of their education such as function, context and stability have broadened the students' perspectives on design and increased their self-confidence.

CONCLUSION:

This study presents an example of the use of abstraction as a tool in the creative thinking process in architectural education. Within the scope of the basic design studio course, the students experienced the process of designing unique spaces based on a painting that they had never associated with the production of space before. The positive effects of fine arts, national and/or international cultural richness on the creative thinking power of a designer have been proven once again. This and similar design challenges not only increase the design experience of the students, but also emphasize the ability of the act of design to develop by feeding on multifaceted environments by creating interdisciplinary interfaces.

Assuming that creative thinking is a skill that can be taught and developed, it is very important to try different techniques and applications in order to encourage creative thinking, especially in the field of architecture, and to enable students to think freely in the design process. In this context, basic design courses create an environment that offer a wide variety of opportunities to educators. Constructing new design problems and sharing the results of this process can guide the construction of other educational experiments. For this reason, it is expected that the article will contribute to other design researchers by sharing an educational experience through design.

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