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Designing Living Spaces That Trigger Creativity Through The Senses: An Architectural Design Studio Experience

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Abstract
Architecture emerged with the basic need for shelter and has been shaped within the framework of life and socio-cultural needs from the first human being to the present day. Houses, as living spaces, are shaped by human life. Houses can directly affect the lives and emotions of individuals. Many studies on this subject have shown that houses have a great influence on individuals. Based on this context, Kocaeli University Department of Architecture, second year, first semester Architectural Design 1 course was shaped by the question of whether the spaces that will trigger the creativity that an artist and his/her family need within the framework of their needs can be designed through the senses. Within the scope of the study, it is aimed to discuss and evaluate three projects worked on during a semester and to present a multisensory design approach to the artist's residence.
Keywords: Housing, Creativity; Senses; Architectural Design Studio; Architectural Education.

1. Introduction

Architecture, one of the most ancient professions that dates back to the earliest times of humanity, actually contains many components. Architecture, which is thought to have emerged with the idea of the first shelter that provides protection from environmental conditions in history, has been the subject of many discussions throughout history that it has socio-cultural effects beyond physicality. The main goal of architects as *"space designers"* is to provide socially and physically comfortable spaces for individuals. This comfort is defined physically by the fact that the space is robust and safe, functional and useful in terms of serving the desired purpose, resistant to climatic conditions and creating a suitable indoor environment for its users. How can socially comfortable spaces be designed? This question actually points to the fact that space has a psychosocial side beyond being a physical phenomenon. Perceiving space as only a *"physical structure"* would be an underestimation. The impact of space directly affect the lives of individuals is an undeniable reality. From this perspective, the places experienced can have positive/negative psychosocial effects on individuals. At this point, the fact that spatial experiences are made with sensory perceptions reveals how effective the senses are in this process.

When a space is experienced, it is coded through specific senses, and these codes are stored in individuals' memories (Holl, 2012). In other words, each place has its own sensory code and is defined in our brains by these codes. Therefore, it would not be wrong to say that spaces affect the individual's life through the experiences gained through the senses and thus gain a place for themselves. From this viewpoint, the senses can be considered as one of the most important phenomena that represent a particular place in the mind (Pallasmaa, 1994). By activating the senses, we perceive a space positively or negatively, which in turn affects our ideas and feelings about it.

As the main living spaces where individuals spend most of their time, homes are the center of these spatial experiences. We change and transform with the houses we live in. Our lives and emotions are positively or negatively affected by the spaces in which we live. In this context, it would not be wrong to say that our individual perception of the spaces of the house we live in also shapes our lives. If this is the case, based on the argument that houses directly affect and change our psychosocial lives, can we design houses that serve our lives in a positive way? With this basic idea, a house design that considers the senses in architectural design can offer a comfortable environment both physically and psychosocially. Moreover, being aware of the power of the senses to affect emotions positively or negatively; spaces can be designed to create positive feelings in the person. Thus, the user of the house can achieve positive gains in their lives through these positive feelings.

The subject of the study was developed on second-year architecture students' comprehension of the effect of space on individuals through the senses in the Architectural Design 1 Studio, which forms the basis of architectural design education. Within the scope of the second year first semester Architectural Design 1 (MIM201) course in Kocaeli University, Department of Architecture, the students will design a residence. The users of the residence were determined as *"artists"* and it was discussed in the studio how creativity can be triggered/enhanced through the senses in this residence where artists will spend their lives. It was hypothesized that it would be possible to positively change the effects of spatial experiences on individuals through the senses, and in this way, creativity within the individual could be *"triggered".* The aim of this study was to make future architects understand the importance of designing by understanding the effect of senses on architectural space.

Thinking and discussing together with architecture students on sensory architecture, a subject that has been in the architectural literature for a long time, and addressing a conceptual discussion through concrete architectural projects helped to look at the subject from a broader perspective. The fact that the students had this experience during the design process enabled them to go beyond the conceptual and become concrete, and made significant contributions to their learning process in the first year of architecture. In this process, students realized that architecture is not only *"visual"* but also serves *"all senses"*, has psychosocial effects that affect emotions, and has the power to greatly affect the life of its users.

2. Senses in Architectural Design

Throughout history, among the senses, the sense of sight has been considered superior to other senses. In western culture, *"sight"* is the noblest of all senses (Rapoport, 1969). Heraclitus, with his statement *"Eyes are better witnesses than ears",* states that what is perceived through sight actually conveys the most accurate information (Levin, 1993; Pallassmaa, 2005). David Michael Levin, in his study titled *"Modernity and Hegemony of Vision"* in which he examines different relational dimensions of vision in society, states that visual perception dominates western culture (Levin, 1993). In antiquity, many philosophers used the metaphors of *"eye and light"* and described visual experiences as a direct way of accessing knowledge. While this was the case in antiquity, during the Renaissance period, the five senses were hierarchized from *"sight",* which was seen as the highest sense, to "*touch"*, the lowest sense (Table 1.). During this period, the senses of the human body were associated with different cosmic metaphors: sight with fire and light, hearing with air, smell with steam, taste with water, and touch with earth (Table 2.) (Pallassmaa, 2005).

Table 1. Hierarchy of the senses (Visualized by Author).

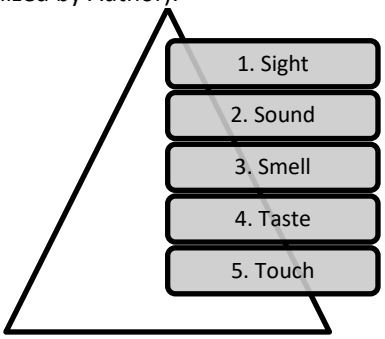
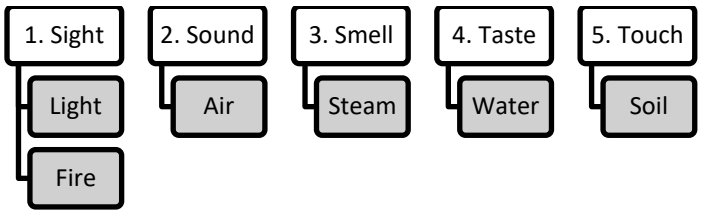


Table 2. Metaphors associated with the senses (Visualized by Author).



Of all the senses, *"sight"* has a faster and more complex working principle than the other senses because it uses light as a tool (Berger, 1998). Sight can only occur in the presence of *"light"* through the processing in the brain of the rays transmitted to the eye. Other senses do not need such an intermediary for perception. In the 17th century, with the Cartesian philosophy of the French philosopher Descartes, the concept of sight was separated from the body and evolved into the idea of *"seeing with the mind's eye".* In the relationship established between *"mind"* and *"sight",* the perspective on the state of vision perceived by the mind through a disembodied eye was defined by the concept of *"eye-centeredness"* (Öktem Erkartal & Ökem, 2014; Öktem Erkartal & Ökem, 2015).

The eye-centered approach has also been criticized by some philosophers. Friedrich Nietche, Martin Jay, and Sartre were some of these critics. Nietzsche regarded the eye-centered approach as a blind hostility to the senses (Nietzsche, 1968). Jay, in his book *"Downcast Eyes"*, presents the historical development of the eye-centered approach in modern culture from various perspectives from different fields and evaluates the anti-eye-centered approaches of many French philosophers (Henri Bergson, Jacques Lacan, Jacques Derrida, Emmanuel Lavinas, etc.) who have made a breakthrough in the history of philosophy (Jay, 1993). Sartre also expressed his negative views on this exaggeration of the sense of *"sight"* many times in his works (Jay, A New Ontology of Sight, 1993).

On the other hand, Walter J. Ong, in his book *"Orality and Literacy"*, points out that the transition from oral to visual expression may have started with the invention of writing. He also associates the transition from sound to visual space with the transition from an oral culture dominated by hearing to a written culture dominated by sight.

This idea implies that before the dominance of the sense of *"sight"*, other senses were considered equally—and perhaps even more dominant. The French historian Robert Mandrou echoes Walter J. On argued that in the past, the hierarchy of the senses was not based on sight as it is in the 20th century, but that *"sight"*, which dominated in the 20th century, lagged behind *"sound"* and *"touch"* (Jay, 1993).

Although different hierarchical analyses and evaluations of the senses have been created throughout history, and although the sensory perception of individuals and the importance they attribute to it have changed for each historical period, one important fact that has not changed is that each sense has a unique power. This power is so unique that it directly affects individuals' spatial perceptions. This, in turn, finds a response in the psychology of individuals. Pallassmaa defines this as a multisensory experience, exemplified by the sense of well-being that a walk in the forest can bring. The forest environment is an atmosphere that appeals to all senses at different scales. This allows the body to interact with the environment and strengthen the individual's sense of reality. Similarly, he states that every impressive work of architecture is multisensory and that each of the sensory organs in the body—eyes, ears, nose, skin, and tongue—together as a common system measure a quality about the space and create an experience of self (Pallassmaa, 2005). Therefore, sensory experiences have psychological consequences for the individual.

The concept of *"creativity",* which is the subject of this article, defines a mental process that is directly related to the psychology of the individual. To be creative, an individual must be able to produce something *"new"* and *"original"* (Giunta, Burnay, Maiden, & Faulkner, 2022). Although the concept of *"creativity"* has different components, the main objective of this study is to support the creative process in a positive way through positive sensory experiences created in the spatial atmosphere in the living spaces of artists who are already creative in nature.

3. Effect of Spatial Senses on Creativity in Living Spaces

Spatial atmospheres are among the most important factors affecting individual creativity in various aspects. From this perspective, the place where the individual spends the most time is often his/her dwelling, that is, his/her living space. The home is at the center of the individual's life, where they can let themselves go as they are, where they can turn inward and be alone or socialize when they want. Houses are places where people form deep bonds and attach meanings to them. Although in social life people may be distanced from their own selves, in their homes they can be themselves, free from all judgments. In all these contexts, houses are a crucial part of an individual's life and are in an important interaction with him/her that changes and transforms. Houses are a direct representation of their users. This representation gives important clues about the individual's culture, beliefs, human relations, family structure, lifestyle, hobbies, professional working life, earnings, and many more.

For creative individuals, housing is a potential atmosphere from which they can get inspiration. Of course, creativity is supported and revealed by the individual's nourishment from different aspects. However, just as housing provides insight into the way humanity has lived and produced throughout history, it also carries clues about the way creative individuals live and produce. For creative individuals, their homes are actually places where they mature their ideas. In fact, there have been examples of this throughout history. When we look at the residences of individuals from different fields of art, we often see a different approach. This may actually mean that creative individuals perceive housing differently than other people.

One of the best examples of this is undoubtedly the Renoir family house. Sons of the famous French Impressionist painter Pierre Auguste Renoir, Jean Renoir was a movie director and Claude Renoir was a ceramic artist. Therefore, in a family where art continues in different branches for generations, the house provides an effective atmosphere for this artistic creativity. Located in the village of Essoyes in the Champagne-Ardennes in France, the high-ceilinged country house (Les Collettes), a typical two-story bourgeois villa of the 20th century, opens its windows to view the bay and mountains. However, a highlight of the house was its garden, a visual feast with an impressive flora of olive trees (Departement Des Alpes-Maritimes, 2023)**.** The interior of the house is unpretentious, functional, and very simple. One of the most striking rooms in the house is Renoir's large workshop on the first floor. In the center of the room, overlooking the view, is Renoir's large painting easel, painting materials, and wheelchair. There is another small studio in the house overlooking the landscape. Renoir, who suffered from advanced rheumatoid arthritis, painted in a wheelchair and continued to paint until his death (Evans, 2019). In his impressionist painting *"Artist's House"(La Maison de L'artiste)*, it can be clearly seen that this house inspired him (Figure 1.).

Figure 1. Pierre Auguste Renoir's House—Essoyes, France—and his painting *"La Maison de L'artiste"* (Bordier, 2017; MutualArt, 2024).

Following Renoir's House is The Forner-Bigatti House-Workshop, another artist's residence designed and built in 1937 by the Argentine modernist architect Alejo Martinez, a student of Le Corbusier (Fundación Forner-Bigatti, 2024). Designed as both a living and working space for two famous Argentine artists; painter Raquel Forner and sculptor Alfredo Bigatti. The house is located in San Telmo, near Buenos Aires, Argentina. On a negligible plot of 176 m2, 140 m2 were allocated for the residence and studio and the remaining 36 m2 for the garden. At the time, it was quite common for artists' residences to be designed with their studios. In Buenos Aires in particular, there are many studio houses designed in this way (Maiztegui, 2024). The Forner-Bigatti House Workshop, which differs from other examples, creates separate independent studios for both artists. Designed as a two-story house, the south façade of the house, which opens toward the square, provides the most suitable natural light for artistic activities; therefore, the workshops of both artists were placed on this façade. The studios positioned on top of each other also create a gallery space, allowing both artists to communicate. This space also provides sculptor Alfredo Bigatti with the volumetric space he needs for his artistic work. On the ground floor are the kitchen and living areas connected to the garden, while on the upper floor are the bedrooms and the master bedroom. It is possible to see traces of Le Corbusier's cubist composition throughout the building design (Figure 2.) (Maiztegui, 2024).

Figure 2. The Forner-Bigatti House Workshop – San Telmo, Argentina (Archive of Fundación Forner-Bigatti).

A contemporary creative example of an artist's residence is the Kampono House, also known as the "Dancer House", designed by Realrich Architecture Workshop (RAW Architecture) for a dancer and her family in Jakarta, Indonesia (RAW Architecture, 2017). Inspired by the profession of Ms. Adhisty, a ballerina, the continuous flow of the ground and the landscape shapes the mass. From the outside, the mass has an extroverted form, whereas the internal spaces create private spaces in accordance with the privacy of the residential program. The orientation of the mass on the land is designed to maximize the impact of the landscape and light. At the entrance of the house, a spacious living space with an open plan and a height of 4 m welcomes the visitors. The designed pool is on the upper level for the privacy of the users. The roof garden designed on the roof provides both a cooling effect for the building and a relaxing place for roof parties. The master bedroom is a large volume of 30 m2 on the upper floor facing the pool and the view. This room also has a large walk-in closet where the dancer can store her

costumes. The dance studio is on the same floor as the master and children's rooms. This space is also a second living room for the family to use. Local materials such as solid Merbau wood and Tulungagung marble were used in the design of the house. Raw concrete was used for the exterior. A sculpture garden was also designed in the open area of the building (Archdaily, 2017). It is possible to see that the residence serves a professional dancer in all the details, from the form to the function of the building (Figure 3.).

Figure 3. Kampono House, Jakarta, Indonesia (Dinardi, 2017).

Another distinguished artist's residence is the zen-like home of Japanese fashion designer Kenzo Takada. The interesting thing about this house is that it creates the atmosphere of a Japanese house in the heart of Paris, in the center of Haussmannian architecture (Reynolds, 2023). Kenzo Takada, who likes to create bold tones and risk-taking silhouettes in his eponymous brand, wanted to create a relaxing environment in his simple home. The fashion designer, who was born in Japan but spent most of his life in Paris, started the construction of this residence in 1988, and the house was completed in 1993. Kenzo Takada was personally involved in the design of the residence. Originally located in the courtyard of an 18th-century apartment building, the residence is spread over four floors. The house has a balance between zen serenity and leisure, both inside and out. The courtyards allow exploration with terraces and walkways. The cedar-clad facade features a Japanese pond surrounded by a Japanese garden. Throughout the building, Kenzo Takada has brought together east-west relations, culture, art, light, color, and textures in a way that respects nature. In 2018, Japanese architect Kengo Kuma renovated the residence and remained faithful to Kenzo Takada's design approach. Kuma brought transparency to each room, which is also seen in Japanese architecture, and reorganized all the rooms, orienting them toward the authentic garden with cherry trees, bamboos, lichens, mosses and rocks. The residence is considered not just a property but a work of art that inspires serenity and the art of living (Figure 4.) (Christie's International Real Estate , 2024).

Figure 4. Kenzo Takada House**,** Paris, France (Cohrssen, 2023).

It can be seen from the different examples all around the world that artists have a unique perception of life and the art of living in common. Although there are different points from which every creative mind draws inspiration, creativity can emerge more easily in atmospheres that positively appeal to the senses. Artists add their own souls to their living spaces and realize their artistic productions with the inspiration they take from there. Therefore, beyond the functionality, comfort, and durability of the house, architectural spaces that establish a relationship with the senses have a positive impact on the activities of artists.

4. Materials and Methods

This study aims to ensure that future architects understand that architecture establishes a deep relationship with other senses beyond the most basic sense of sight and the importance of experiencing this in the production of

architectural space. While providing students with an awareness of this issue, it also aims to be a guide for potential future designs by opening the subject to discussion in architectural practice.

Within the scope of this study, the importance of the senses in the perception of space was emphasized as the basic approach. This topic was supported in the conceptual discussion process with printed and digital literature sources shared with the students. Discussions were conducted on the book "The Eyes of The Skin" by Juhani Pallasmaa, which is a basic source on the importance of the senses in spatial perception. After discussing the importance of the senses in spatial perception, the issue of how the senses can change spatial perception and how they can serve the user of the space in a positive way came to the agenda. All these conceptual discussions were conducted with the aim of creating a broader and phenomenological perspective beyond the physicality of architectural space in the minds of students before proceeding to architectural design. One of the aims of this study was to provide students with the ability to conceptually think about an architectural space before designing it in architectural education, which is the first stage of the profession.

The focus of this study is the experience of producing spaces that can trigger creativity for *"artists"* who are defined as special users in a housing project made through the senses. After conceptual discussions during the studio work process; research on artist residences was conducted. The different examples researched were discussed in the studio environment with their positive and negative aspects. Afterwards, students were asked to choose between urban and rural land in the Kocaeli and Sakarya provinces in Turkey. To decide on their plots, the students went to certain locations in both cities and made on-site surveys through photography and video shooting. After deciding on the study plots, the land analysis phase began. Each student analyzed climatic data, solid – void, vegetation, transportation, focal points, function, local architecture, and materials on the project site of their choice. Then, the architectural design phase began. In this process, the first process started with sketching, and then digital drawing/modeling methods and model studies were continued simultaneously.

This study consists of three of the most successful projects among the projects designed by the students (Sude Naz Çetin, Khetam Al Sibai, Arzu Betül Biçer) in the design studio process of the Architectural Design 1 (ARCH201) course of Kocaeli University, Department of Architecture. The criteria for the selection of these three architectural projects were; establishing a correct conceptual relationship with the subject, determining the needs in architectural design in accordance with the user, establishing a correct relationship with the design area, using the senses in the architectural space in a way that will have a positive effect on the user, and creative, original, and correct construction of architectural spatial solutions.

In this study, the relationship between the senses and architectural space was investigated in detail, and in this context, student projects prepared in the Architectural Design 1 Studio were examined qualitatively by descriptive analysis. Because of the descriptive analysis of the process and achievements of the architectural design studio through the data obtained from the student works, what can be done to influence/trigger creativity through the senses in architectural design has been determined (Table 3., 4.).

Table 3. Architectural Design 1 Studio Design Methodology and Stages (Developed by Author).

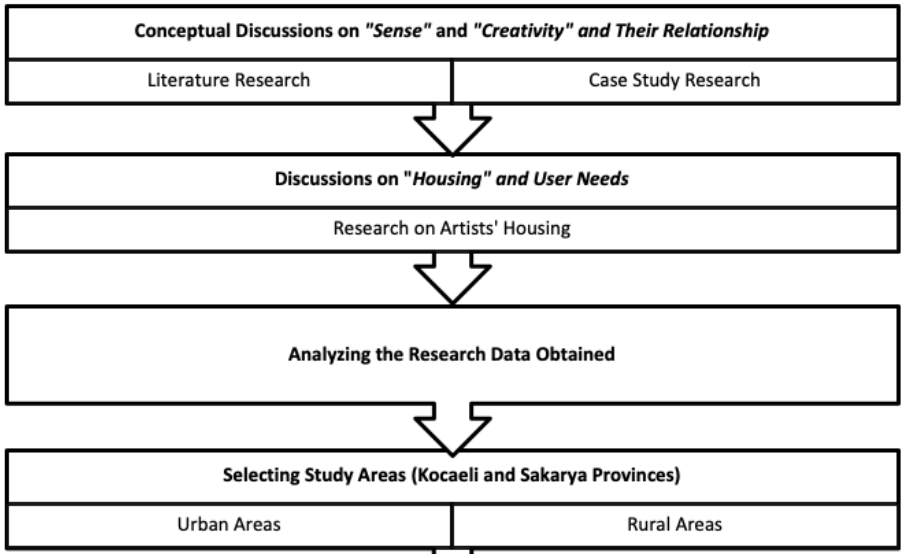
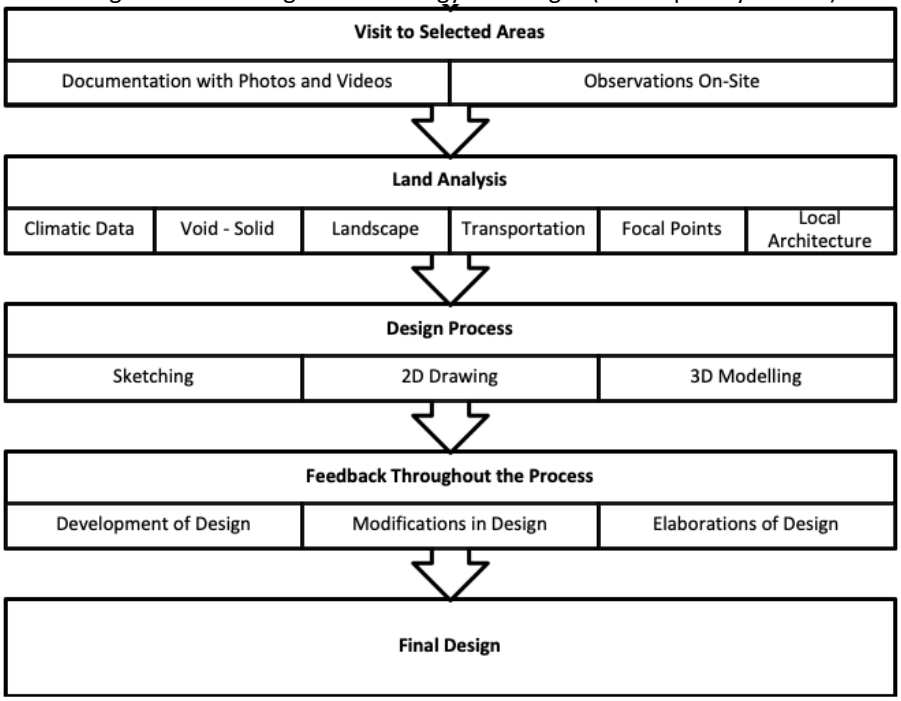


Table 4. Architectural Design 1 Studio Design Methodology and Stages (Developed by Author).



5. Findings and Discussion

5.1. Architectural Design Studio I Process

The design approach in Architectural Design Studio 1 is to guide and support students in producing solutions to design problems by placing them at the center of the design process. To discover their creative powers and produce original ideas, the instructor is in the guiding position in the workshop. Students and the instructor express their opinions in the project evaluation, which aims to develop projects with a common mind. The path followed in the design process in the workshop consists of mutual feedback from the inductive method in a logical framework from the part to the whole and the deductive method in an intuitive framework from the whole to the parts. In this context, the methodologies of the logical and heuristic approaches and their relationship are equally seen as ways to progress in design. In design, every idea is expected to start in two dimensions with the sketching process. This is followed by the use of three-dimensional design tools for the progression of the project in logical and intuitive analysis. In the process of developing the design; it is aimed to create a contemporary learning environment with sketches, 2D drawings, and 3D modeling and to enable the student to freely reveal his/her potential. The design method used in the workshop consists of strengthening the theoretical background with conceptual discussions on the subject, conducting research on the subject by the students, performing a detailed analysis of the selected site, generating the design idea with various tools, and developing it.

2023-2024 Fall Semester, Architectural Design 1 (Arch201) course, the subject given to work on was the "Artist Residence" project in Kocaeli University, Department of Architecture. This study aims to discuss this issue through the dialectic of senses and creativity. The main subject of the design is how to design spaces that will trigger the creativity of an artist in his/her living space through the senses. The design process was initiated through this conceptual issue, which is quite thought-provoking and challenging for architecture students in the second year of the first semester. Following the conceptual discussions, land analysis, the creation of the needs program for the artist personality determined by the students, design sketches, 2D drawings, and 3D modeling were carried out to develop the design. After the final evaluation jury, the studio process was completed.

5.2. Land Analysis

The students were asked to choose their own land within the primary borders of Kocaeli and Sakarya in Turkey, where they would design, and to visit this area and document it with photographs and video recordings. After this stage, each student was asked to analyze the design area. Analyses were conducted under the headings of climatic data, solid - void, landscape, transportation, important focal points, and local architecture. Of the three selected projects, projects 1 and 2 are located in a rural environment in Sakarya and Kocaeli, whereas project 3 is located in an urban environment in Kocaeli (Figure 5.).

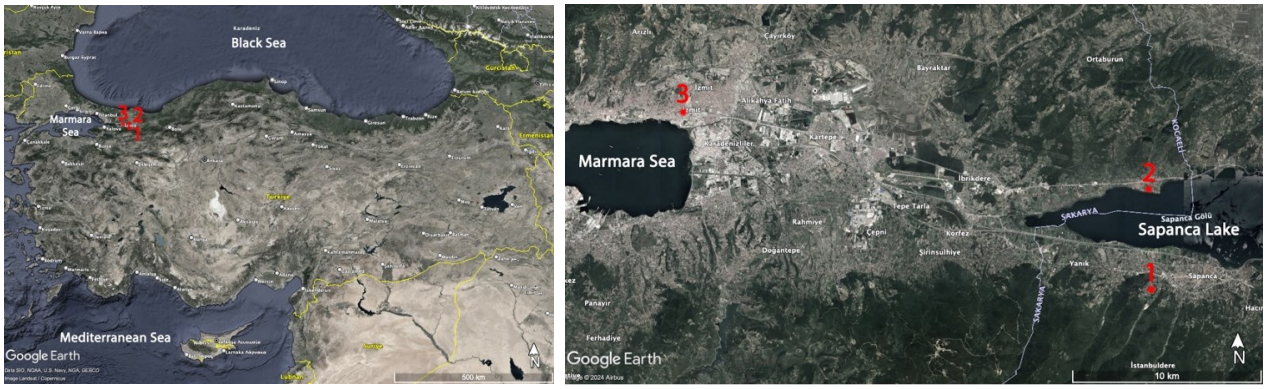


Figure 5. Maps showing the location of the plots (Developed by Author by using Google Earth).

As neighboring provinces, Sakarya and Kocaeli have generally similar climatic characteristics, although the wind effect is felt more intensely on the shore of Sapanca Lake and at higher elevations in Sakarya. The average annual temperature in Kocaeli and Sakarya is the same at 14.7 °C. The average annual precipitation in Kocaeli is 816.4 mm, the number of rainy days is 133.5 days, and the average sunshine duration is 5.6 h per year (Meteoroloji Genel Müdürlüğü, 2024). Although Sakarya's average annual precipitation is 846.0 mm, the number of days with annual precipitation is 130.8, which is lower than that in Kocaeli. The sunshine duration is less than that of Kocaeli (5.4 h) (Meteoroloji Genel Müdürlüğü, 2024). Owing to their location, Kocaeli and Sakarya have a transitional climate between the Mediterranean climate and the Black Sea climate. This climate means that winters are mild and rainy and summers are hot and humid. The fact that both cities are on the Black Sea coast causes a warmer climate in the south of the provinces and a cooler and colder climate in the north.

It is known that the built environment density is low in the two projects selected in rural areas in Sakarya and Kocaeli, whereas the built environment density is high in the urban area selected in Kocaeli. Both rural projects are located close to Sapanca Lake. The rural land, on a sloping area on the south side of Sapanca Lake, is located in the Mahmudiye Neighborhood of the Sapanca District of Sakarya. The other rural land selected in a flat area on the northern border of Sapanca Lake is located in the Eşme neighborhood of the Kartepe District of Kocaeli Province. The last site selected in the urban environment is located in the Karabaş Neighborhood of the Izmit District of Kocaeli, close to the D-100 highway in a flat, dense, and busy urban fabric (Figure 6.).

Figure 6. Lands of Project 1 and Project 2 are located in rural areas in Kocaeli and Sakarya, and Project 3 is located in urban area in Kocaeli (Developed by Author by using Google Earth).

The lands show similar characteristics in terms of climatic data, solid - void, landscape, transportation, focal points, and local architectural elements in rural areas. The climatic data of the lands in the rural area have the characteristics previously mentioned for Sakarya district. Although there is no dense built environment around the lands, there are generally private detached houses and gardens in the surrounding parcels. Beech, hornbeam, poplar, chestnut, sycamore, maple, and oak trees, which constitute the common vegetation of Sakarya, form the surrounding landscape texture (Sakarya İl Kültür ve Turizm Müdürlüğü, 2024). Both plots in the rural area are surrounded by a single-lane car road and are located close to intercity connection roads. Because both areas have a dense residential texture, there are few commercial units close to the plots. There are mosques, food and beverage units, and small-scale accommodation facilities in the immediate vicinity of the plots.

The Sakarya region, especially due to its dense forest texture, frequently uses wooden details in local architecture, as in many rural areas of the Black Sea region. Wood is frequently preferred in local architecture in terms of being economical and sustainable because raw materials are easily accessible. Wooden details made of hornbeam and oak are preferred in traditional buildings and in newly constructed buildings. In addition, the volcanic rock known as "Kandıra Stone" extracted from quarries in the Kocaeli and Sakarya regions can also be used in various ways in buildings (Moralı & Karakaş, 2019). However, the rural architecture around Sapanca Lake is limited to single- or two-story buildings and rarely three-story buildings. This gives us an idea of the average structural height.

In Kocaeli's urban fabric, the situation in the analysis data is slightly different. The site is located in a dense urban fabric, and although the climate is compatible with the general data of Kocaeli, wind is not effective in the dense urban fabric. Because the selected land is located in the center of the city, it is in a dense residential and vehicular/pedestrian circulation. Although there is an urban square near the site, which can be defined as a void, the urban fabric generally consists of solid masses. There are few and singular beech, hornbeam, and oak trees around the land. The landscape structure is not dense. The perimeter of the land is bounded by car roads and pedestrian sidewalks in both directions. The site is located north of the D-100 highway and is close to this important intercity transportation axis. Certain focal points around the site are within walking distance. The Pertev Mehmet Pasha Mosque, Fevziye Mosque, and Fethiye Street are important urban focal points with high pedestrian density. The location of the land in the urban fabric brings commercial function to the forefront. The buildings in the neighborhood are mostly high-rise apartment buildings. The number of floors of the apartment buildings varies between 3 and 8 floors. While the lower floors of these apartment buildings are used by commercial units, the upper floors are sometimes used for residential functions and commercial units. In this context, there is a mixed use of residential and commercial units in the same buildings.
Although Kocaeli city center has a long history, the existing built environment, mostly consisting of single apartment buildings and business centers, was built with reinforced concrete structures, especially after the 1970s (Müştak & Erdoğan, 2016). In this context, data on the local architecture in the vicinity of the site can only be obtained through the Ottoman period historical buildings that have been restored later. Today, reinforced concrete and steel structures are also preferred in the buildings constructed in the region. On the facades, plaster, paint, and facade coatings consisting of different materials are also preferred.

5.3. Specifications

An important process of the design was to think about the user profile. As is known, each individual will have different demands and needs in the living space. In this context, each student created their own user scenario and made design decisions. This basic approach allowed each student to create a program for different needs and to produce more creative ideas and be original in this regard. Each student created a family scenario for the house to be designed. It was expected that at least one person in each family would have a profession in any art form. All other scenarios were left to the students.
In this context, in the first project, a scenario of a four-person family consisting of a man, woman, and two children was designed. In addition to the family, a live-in staff member was planned to take care of the house and the children. In this scenario, the woman is a painter and the man is a sculptor. The children grow up surrounded by art. The spaces required by this scenario have included basic units such as bedrooms, kitchen, bathroom, living room, and dining room for family members, as well as some extra spaces. It was realized that a large and comprehensive indoor workshop with material storage was needed as a workspace. It was also decided that there should be an exhibition space for art products, outdoor workshop spaces, and an art library. With the idea that every individual who interacts with art should be nourished from different angles; a meditation room opening to the sky that calms the artist's mind, a wine cellar and tasting area, and a cinema room are planned. In addition to these spaces, technical volumes, shelter, and parking areas were considered.
In the second project, the users of the house were envisioned as a larger family. In addition to the man, woman, and three children; grandparents live in the house. The man is a movie director and the woman is a fashion designer. Both enjoy spending time in nature and meditating. They are inspired by nature and the landscape. The children enjoy spending time outdoors in the garden and swimming. The grandparents, the elders of the family, take care of the plants in the garden and enjoy spending time outdoors. The house is also home to a staff of two who help with the maintenance of the house and garden. In this family scenario, extra spaces were needed beyond the bedrooms, kitchen, bathroom, dining area, and living room. For the man, a private space with a work area and for the woman, a sewing and design workshop with a storage area for her fabrics. Both personalized spaces are visually connected to the landscape and nature and are planned in such a way that people can be inspired by nature to trigger their creativity. In addition to these spaces, playgrounds for children, open space areas, staff bedrooms, and parking lots are planned within the scope of the project.
In the third project, the public/private debate continued due to the design in the city center. The ground floor of the house located in the city center was designed to accommodate public activities. In the user scenario, a family of four, consisting of a man, woman, and two children, is planned to live in the residence. The male and female users of the house are identified as professional dancers. A dance studio, dressing rooms, a cafeteria, an outdoor dance performance area, and a cafeteria are planned to be built with the basic idea that dance lessons will be given in the residence. In addition to these commercial units, other volumes such as bedrooms, kitchen, bathroom, dining area, and living room where the family will continue to live are also planned. In addition, entertainment and hobby areas have been designed for all family members to enjoy.
In all three projects, the design criteria and specifications were determined on the basis of the family scenario chosen by the students. The fact that the students were not given design criteria and specifications pushed them to think in more detail and creatively and come up with different solutions.

5.4. Stages of the Design

As mentioned in the methodology section, the design process in the studio started with sketches, followed by 2D drawings and 3D modeling. In all these processes, feedback was given to the students face to face every week in the architectural design studio, and the projects were aimed at progress.

- **Embodying Design Ideas**

Although it is not a very difficult design problem to produce a residence on the selected sites with the determined family user scenarios, adding *"senses"* to this design problem has caused a process that makes the issue a little more difficult. Although the issue of how to handle the senses in this design problem and how to trigger the creativity of individuals identified as users in these living spaces has been discussed at length in conceptual discussions, transferring this to a two-dimensional drawing plane has not been as easy as expected. This problem, which constitutes the main subject of the study, contributed to the differentiation of the design from other residences and to the deeper thought process of the students. The users of the residence, artists, are individuals who can be inspired by many aspects of life and thus their creative processes can be nourished. Artists are special individuals who can perceive nature and the built environment differently from other individuals. The ability to produce art itself comes from a different perspective. These creative perceptual processes occur in living spaces where individuals spend the most time. In this context, the designed residences are the production centers of individual art.

With these approaches, the sketching process marked the beginning of the process of concretizing the ideas. The relationship to be established with the senses in the first project progressed through sight, sound, smell, and touch. In the relationship established with the sense of sight, the visual relationship was strengthened by making the spaces more permeable inside and outside the space. A visual relationship was established with the view of Sapanca Lake on the floor terraces and the open space landscape designs designed in the garden of the land. At the same time, with the idea that nature is a part of inspiration, the aim was to create a calm and peaceful environment with herbal landscape elements in the interior. Therefore, a visual relationship between the lake view and nature was created both indoors and outdoors. In order to stimulate the sense of sight and hearing, a sky window that can be opened in the meditation room was designed and aimed to transfer the sounds and images of birds outside to the inside. In addition, this was also supported in the indoor circulation areas with roof elements that can be opened and closed on the roof. In this way, the sounds of the exterior became more perceptible indoors. Live trees designed in the circulation areas created an inviting environment for birds. The plants used in the interior design and in the garden also supported the scent of nature both indoors and outdoors to be effective throughout the land. Finally, the materials in the building were left exposed so that the different textures preferred in the design, such as concrete, natural local stone, and local wood, could be felt.

In the second project, which was on the shore of Sapanca Lake, it was aimed to use its potential. It was aimed that the workspaces of the artist members of the family directly overlook the lake view and the garden. Thus, a visual relationship that can be inspired by nature has been achieved. To maintain the sounds and smells of the forest, the natural landscape elements on the land were not interfered with at all, and the existing tree texture was strengthened with new landscape elements. In this respect, the continuity of the fauna in the immediate surroundings was ensured within the land. The continuity of nature within the land allowed the sounds and smells of nature to be absorbed into the interior of the building. Being on the shore of Sapanca Lake, the smell sensations and sounds of the water and the plant formations around the water could also be included in the land. Privacy was also an important consideration. For this purpose, masses were placed on the road surrounding the land and a private inner garden was created inside, which can be intertwined with nature. With an iconic tree passing through the living space, nature is also felt indoors. The designed double wall creates a different effect on the exterior and interior while providing solar control. Local natural stone and wood materials were used for the cladding surfaces throughout the building.

In the third project, the idea was to use the potential of being in a dense urban fabric. While using this, some determinations were made and solutions were aimed to be produced with the foresight that negative relationships could be established with the senses. The first negative determination was to take measures against noise in the city. For this purpose, sound insulation was designed for the dance studio on the ground floor. Thus, the dance performance process was isolated from environmental noise. Another negative situation was the lack of landscaping in the neighborhood. Considering that humans are a part of nature, it was thought that strengthening the landscape for artistic production in a busy city center would have a positive effect, and trees were added as landscape elements inside and outside the building. The iconic tree placed at the center of the mass became the most striking feature of the building. All vertical circulation in the building was realized around this tree, which can establish a controlled relationship with the outside on the roof. Thus, a visual and auditory relationship with the tree was established on all floors. It was suggested that this could have a relaxing effect in the dense urban fabric. Another feature of this project was that the dancers involved in the scenario wanted their art to be made visible. In this context, the facades of the dance studio were designed with transparent concrete so that the figures of the dancing body in the interior could be perceived as silhouettes from the outside. This not only strengthened the building's relationship with the city but also motivated the artists to reflect on their art. An open-air dance platform was designed at the intersection of two pedestrian sidewalks on the west side of the site, thus creating a space open to public performances in the open air.

In this residence designed for dance artists, an intensive visual relationship with the city and its users is the result of intensive movements toward the sense of sight.

- **Transferring the Design Idea to 2D Drawings and 3D Modeling**

After a very productive discussion process of the designs, the transfer of the ideas to two-dimensional and three-dimensional planes progressed through two-dimensional drawings, models, and mock-ups made by the students to develop their designs. Each student's unique designs, which are suitable for the user scenario and the context in which they are located, have progressed with the collaborative work process and feedback realized in the studio every week. It became clear that the most important process of the design was the conceptual discussions at the very beginning. In the context of these discussions, we aimed to develop designs that relate to the environment and senses in a user-specific way. The projects of the three selected students progressed at different speeds from the beginning of the semester to the final evaluation jury. The students continued to develop their projects while learning modeling and rendering programs to transfer their designs to the three-dimensional plane (Figure 7.,8.,9.,). In this experimental and mutual feedback studio environment, the semester ended with a final evaluation.

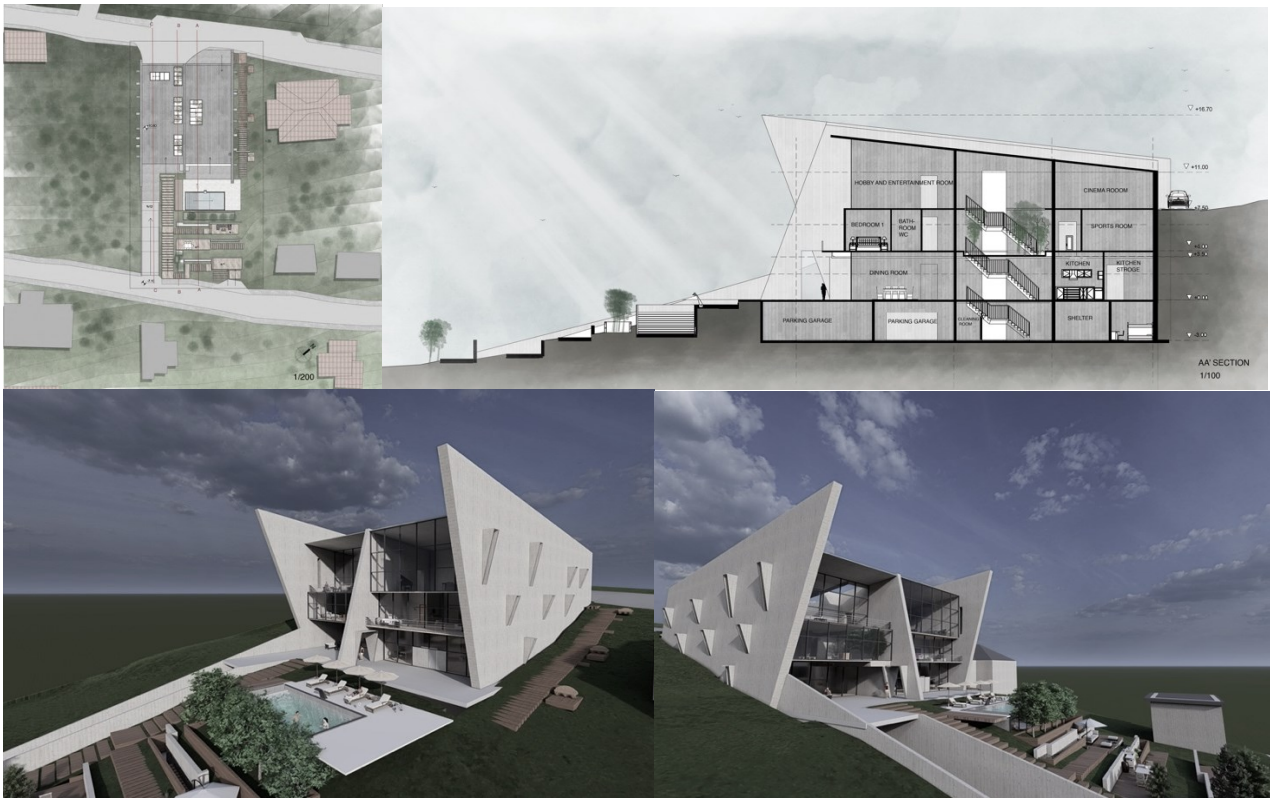
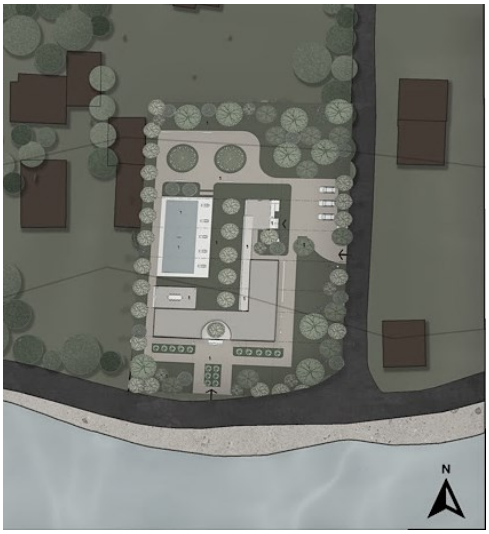
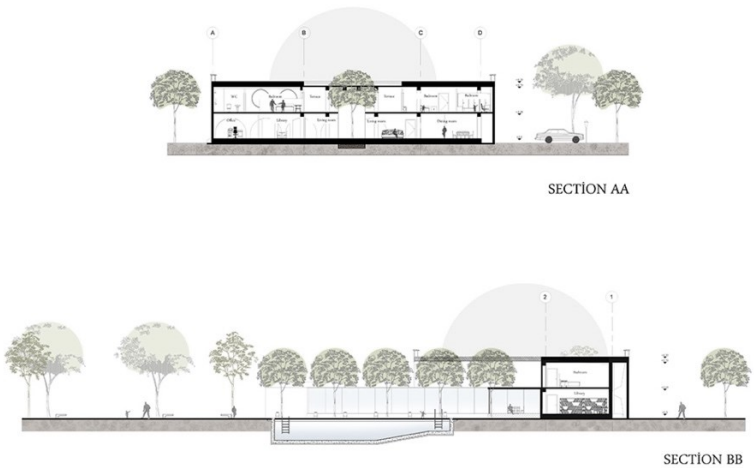


Figure 7. Project No. 1: Sude Naz Çetin's Project .





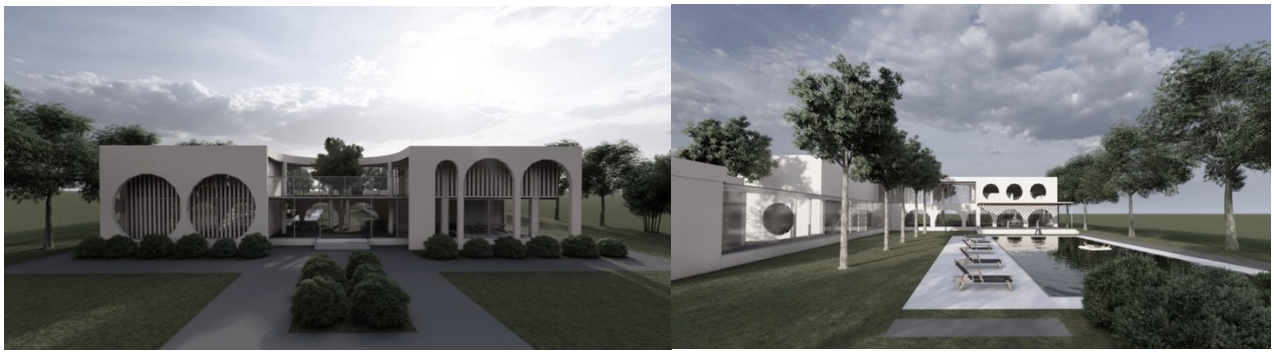


Figure 8. Project No. 2: Khetam Al Sibai's Project.

Figure 9. Project No. 3: Arzu Betül Biçer's Project.

6. Conclusions

The impact of the first architectural design studio, where the foundation of the architectural profession is laid, on students' learning and experiencing processes is undeniable. While architectural design studios prepare future architects for the profession, they should also offer them different perspectives. One of the most important missions of the studio process is to support students' own discovery and experiencing process and to provide them with opportunities to reveal their own creativity. In this respect, architectural design studios are at a critical point in the relationship that students establish with the profession. In this context, the design problems presented in the studios allow students to develop different thinking and design skills and approaches.

The design problem of this study is "Can spaces that trigger creativity be created through the senses?". In the experimental design studio organized around this question; artist residences that can relate to the senses were designed as a result of productive discussions at the beginning of the project. In this process, for the students in the first semester of the second year, conducting these discussions and being able to think by entering the mind of an artist enabled them to develop a different empathy for design. Throughout the semester, it was understood how to establish a spatial relationship with the senses, which were at the center of the discussions. They had an idea about how to develop user-oriented, functional design approaches that can relate to the context in which they are located. The design process of an architectural design problem was experienced from the beginning to the end with all its stages. The quality of the projects was found to be successful by the final evaluation jury members at the level of the first architectural design studio. It is thought that the experiences of the students during the design process turned into important gains for them.

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Conflict of Interest
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References

Archdaily. (2017). *Kampono House / Realrich Architecture Workshop.* Archdaily. Access Address (12.03.2024): https://www.archdaily.com/880640/kampono-house-raw-architecture.

Babazadeh-Asbagh, N. (2021). Adaptive Reuse of the House of Mirza Mehdi Farrashbashi in Tabriz, Iran. *International Conference on Contemporary Affairs in Architecture and Urbanism, 4*(1), 506-520. Alanya, Antalya, Türkiye. https://doi.org/10.38027/ICCAUA2021300N15

Babazadeh-Asbagh, N. (2022). Comparative Analysis of Qajar Historic Houses in Tabriz, Isfahan, Yazd, and Kashan, Regarding their Architectural Forms and Elements. *International Conference of Contemporary Affairs in Architecture and Urbanism*, *5*(1), 586-605. Alanya, Antalya, Türkiye. https://doi.org/10.38027/ICCAUA2022EN0087

Berger, A. A. (1998). *Seeing is Believing: An Introduction to Visual Communication.* California: Mayfield Publishing Company.

Bordier, S. (2017). *« Du Côté des Renoir », a permanent discovery tour through the village of Essoyes.* Encapsulate France. Access Address (10.02.2024): https://encapsulatefrance.com/2017/09/13/du-cote-des-renoir/.

Christie's International Real Estate . (2024). *The Kenzo House - Paris, France.* Christie's International Real Estate. Access Address (20.02.2024): https://www.christiesrealestate.com/sales/detail/170-l-170-2302241030120852/the-kenzo-house-paris-france-pa-75011.

Cohrssen, J. (2023). *Kenzo House.* Jimmy Cohrssen Photography. Access Address (20.03.2024): https://jimmycohrssen.com/albums/kenzo-house-revised-by-kengo-kuma-paris/.

Departement Des Alpes-Maritimes. (2023). *Auguste Renoir Et La Maison Des Collettes.* Departement Des Alpes-Maritimes. Access Address (12.03.2024): http://www.savoirs-alpesmaritimes.fr/Domaines/Arts-du-visuel/Renoir-et-Les-Collettes.

Dinardi, E. (2017). Dancer House. *Photography.* Jakarta.

Drucker, M. (1914). Renoir. *Éditions Pierre Tisnée.* Collection Prométée, Champagne.

Ergen, A., & Girginkaya Akdag, S. (2024). RETHINKING THE SERVICESCAPES OF NEW GENERATION BANKS: EVIDENCE FROM TÜRKIYE. New Design Ideas, 8(1), 97–115. https://doi.org/10.62476/ndi.8197

Evans, M. A. (2019, June 26). *The Renoir Museum in Cagnes-sur-Mer, Cote d'Azur.* Trip Savvy. Access Address (10.03.2024): https://www.tripsavvy.com/renoir-museum-in-cagnes-sur-mer-1517805.

Fundación Forner-Bigatti. (2024). *La Casa Taller Forner Bigatti.* Fundación Forner-Bigatti. Access Address (10.02.2024): https://forner-bigatti.com.ar/la-casa/.

Giunta, B., Burnay, C., Maiden, N., & Faulkner, S. (2022). Creativity Triggers: Extension and Empirical Evaluation of Their Effectiveness During Requirements Elicitation. *The Journal of Systems & Software*(191), 1-15. https://doi.org/10.1016/j.jss.2022.111365.

Holl, S. (2012). *The Eyes of Skin: Arcihtecture and Senses.* West Sussex: John Wiley & Sons Limited.

Jay, M. (1993). A New Ontology of Sight. A. M. Levin içinde, *Modernity and the Hegemony of Vision* (p. 149). Los Angeles: University of California Press.

Jay, M. (1993). *Downcast Eyes.* Berkeley: University of California Press.

Kamal, A. M., & Gabr, H. S. (2024). ASSESSING CHILD-PLAY ENVIRONMENTS: ARCHITECTURAL IMPACT OF NATURE BASED PLAY-AREAS ON THE QUALITY OF CHILDREN'S DEVELOPMENT. New Design Ideas, 8(1), 184–206. https://doi.org/10.62476/ndi81184

Kanyepe, J. (2023). The Nexus between Residential Density, Travel Behavior and Traffic Congestion in Developing Metropolitans: A Case Study of Harare, Zimbabwe. Journal of Contemporary Urban Affairs, 7(1), 103–117. https://doi.org/10.25034/ijcua.2023.v7n1-7

Levin, D. M. (1993). *Modernity and the Hegemony of Vision.* Los Angeles: University of California Press.

Maiztegui, B. (2024, February 5). *Forner Bigatti House Workshop / Alejo Martínez.* Archdaily. Access Address (05.02.2024): https://www.archdaily.com/1012271/architecture-classics-forner-bigatti-house-workshop-alejo-martinez?ad_source=search&ad_medium=projects_tab.

Meteoroloji Genel Müdürlüğü. (2024). *Kocaeli*. General Directorate of Meteorology. Access Address (14.03.2024): https://www.mgm.gov.tr/veridegerlendirme/il-ve-ilceler-istatistik.aspx?m=KOCAELI.

Meteoroloji Genel Müdürlüğü. (2024). *Sakarya*. General Directorate of Meteorology. Access Address (14.03.2024): https://www.mgm.gov.tr/veridegerlendirme/il-ve-ilceler-istatistik.aspx?m=SAKARYA.

Moralı, G., & Karakaş, A. (2019). Geological and Building Stone Characteristics of Kocaeli Kandıra Stone. *Journal of Applied Earthsciences, 18*(1), 19-28. DOI: 10.30706/uybd.551778.

Müştak, S., & Erdoğan, N. (2016). Evolution of Modern Housing in Turkey Since Early Republican Period as Part of Socio-Cultural Relation: The Case of İzmit. *Procedia Engineering, 161*, 1316-1321. https://doi.org/10.1016/j.proeng.2016.08.595.

Nietzsche, F. (1968). *The Will to Power* (Cilt II). (T. W. Kaufmann, Dü.) New York: Random House.

Odunlade, O., & Abegunde, A. A. (2023). Territoriality in Post-conflict Neighbourhoods: Unravelling the Dynamics of Territorial Marks in Ile-Ife, Nigeria. Journal of Contemporary Urban Affairs, 7(1), 69–85. https://doi.org/10.25034/ijcua.2023.v7n1-5

Öktem Erkartal, P., & Ökem, S. (2015). The Phenomenon of Touch in Architectural Design and a Field Study on Haptic Mapping. *Megaron, 10*(1), 92-111.

Öktem Erkartal, P., & Ökem, S. (2015). The Phenomenon of Touch in Architectural Design and a Field Study on Haptic Mapping. *Megaron, 10*(1), 92-111. DOI: 10.5505/MEGARON.2015.30602.

Öktem Erkartal, P., & Ökem, S. (May 8-11 2014). Questioning the Eye-Centric Paradigm: Tactile Architecture. *1st International Urban Planning-Architecture-Design Congress* (p. 869-884). Kocaeli: Kocaeli University.

Pallasmaa, J. (1994). An Architecture of the Seven Senses. *Architecture + Urbanism : Questions of Perception*, 29-37.

Pallassmaa, J. (2005). *The Eyes of The Skin: Architecture and Senses* (Cilt 2nd Edition). Sussex: John Wiley & Sons Limited.

Rapoport, A. (1969). *House Form and Culture.* New Jersey: Prentice Hall.

RAW Architecture . (2017). *Dancer House.* RAW Architecture. Access Address (05.03.2024): https://real-rich.org/2019/07/19/project-09-dancer/.

Reynolds, E. (2023, April 5). *Home of the Week: Inside Late Fashion Designer Kenzō Takada's Contemporary Japanese Manse in Paris.* Robb Report: Access Address (10.03.2024): https://robbreport.com/shelter/homes-for-sale/fashion-designer-kenzo-takada-japanese-home-paris-1234826955/.

Sakarya İl Kültür ve Turizm Müdürlüğü. (2024). *Sakarya General Information. Sakarya Provincial Directorate of Culture and Tourism.* Access Address (14.03.2024): https://sakarya.ktb.gov.tr/TR-112516/sakarya-genel-bilgiler.html#:~:text=Sakarya%20İli%2C%20doğal%20bitki%20örtüsü,meşe%20başlıca%20ağaç%20türlerini%20oluşturur.

Zharani, E. N., & Selim, G. (2023). A Review of the Meaning of Home in Multi-Ethnic Settings. Journal of Contemporary Urban Affairs, 7(1), 103–121. https://doi.org/10.25034/ijcua.2023.v7n1-8