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Second Year Architectural Design Studio Experience: Designing Space for Children

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ABSTRACT

This study focuses on the architectural design studio, emphasizing the importance of the innovative, dynamic and experiential structure of the architectural design studio. The study revealed a studio experience in the fall semester of 2021-2022, and the design studio was discussed with its products. The studio was created with its role in the curriculum in mind. In order to be able to think about 'place' and 'program', sometimes separately and sometimes together, with a method consisting of three modules, a multi-layered, research-based process was followed at every step. Some key concepts were given to the students to accompany their studio research, which guided the students in developing their original architectural programs. Another important issue that was touched upon within the scope of the paper and affecting the studio process is the effect of the pandemic conditions. Although the studio was held face-to-face when the pandemic conditions were relatively light, the students spent a year with distance education before. Therefore, this situation was also included when planning the studio method and process. In the short exercises, the students were encouraged to work with models to understand the topography and the characteristics of the place and implement strategies accordingly. On the other hand, for students who are experiencing the studio physical environment for the first time, it is more important than ever to emphasize the pluralistic structure of the studio (juries, workshops, presentations, etc.) with methods and tools.

Keywords: *architecture design studio, architectural design education, children and space*

Introduction

The relationship between space and person is a two-way interaction. A change in one of them transforms the other. The change of people's habits and needs requires the change of spaces designed for people. This requirement necessitates examining and rethinking all spaces from smallest to largest scale. In architectural education, design studios create a valuable environment that enables this act of thinking. In the studio, architectural design can be discussed with innovative ideas in a free and dynamic environment with the intention of covering all the dynamics of life. The studio provides an experimental environment for generating thoughts on current situations.

Architectural design studios form the backbone of architectural education, where students synthesize and use the technical and theoretical knowledge gained in other courses (Ozorhon and Lekesiz, 2021). However, studio contents and the ways of implementation vary or should vary depending on time, school, and studio instructors' approach. Since changes and transformations in life affect architecture as well as every discipline, architectural education also differentiates over time. Indeed, the subjects handled and the methods applied in the studio are changing/renewing according to the spirit of the time. In fact, studios constitute an important-pioneering discussion area for generating ideas on how these changes and transformations affect the architectural environment and how they will affect them in the future. In the studio, the conditions of the place and time are discussed, and a design can be produced for this. Also, imaginations/scenarios can be produced for the near or far future. A comparison can be made between science fiction novels with this structure of studios that makes you think, research, and try to understand the future, the people of the future, the cities of the future, and the places of the future. In other words, the way of thinking in architectural design studios is not enough to understand their own time and learn the architectural practice of their own time. In addition, it includes an effort to question its time and even think ahead of its time. When it comes to architectural and design education, this effort makes it imperative to rethink each time concerning many different branches and make intense internal questioning without obeying habits (Ozorhon, 2021).

The place of the studio in architectural education is central. Students have the opportunity to reinforce the knowledge they have acquired in all other courses by putting them into practice during the studio. In the studio, a different method applies to the university education model in other disciplines. In the studio, the student learns by working hands-on to develop an effective solution to a design problem defined by the instructor (Oh, Ishizaki, Gross, and Yi-Luen Do, 2013). One of the main reasons studio courses are heavily involved in the education of architects is that studios are the only place where architecture students seek solutions to ever-changing design problems by doing and experimenting, thus becoming active and learning (Kararmaz and Ciravoğlu, 2017).

Purpose and Scope of the Study

This study focuses on Architectural Design Studio II (201A) conducted in the 2021-2022 fall semester at Özyeğin University, Faculty of Architecture and Design, Department of Architecture. In the study, first, literature research developed within the framework of the studio experience is included. Then 201 A studio, which is realized with the 2nd year architecture students, is revealed. An important issue is that this studio was realized after the pandemic with a group of students who had never had face-to-face architectural training or any physical studio experience. The studio, which consists of three modules, is explained with its method, process, tools used in the studio, and the functions of these tools. After that, student productions of the semester were included to make the studio understandable. Finally, a holistic evaluation of the studio, enriched with student evaluations and comments, was made.

Literature Review on Architectural Design Studio Experience

The creative design education should base on to develop design ability of students. It is essential to teach design through projects. In this education model, design studio is in the centre of architectural education. Design Education should become innovative, dynamic, and sophisticated (Ozorhon, Eryıldız, Aysu 2012). On the other hand, the architectural design studio is an effective resource for researchers to think about architecture. In addition, sharing the design studio experiences in the academic environment is important data for other educators to learn from these inferences and improve themselves. This flow of information and feedback is significant. For this reason, we frequently encounter studies evaluating the studio process and its outputs in the literature.

For example, Cantürk Akyıldız (2020) revealed his first-class architectural design studio experience, activities, and outputs throughout the process. Canbay Türkyılmaz and Polatoğlu (2012), on the other hand, examined how students transform their knowledge in the early design phase through questionnaires and studio outputs made with students. Iavarone and Birer (2020) discussed the effect of boundaries (limitation) in design through studio experience. The studio outputs were evaluated within the scope of architectural solutions against limitations/ constraints (physically, legally, and socially), and it was discussed how the concept of limit supports students' learning in the architectural design studio (Iavarone, Birer, 2020). In their article on studio experience, Koç and Tuztaşı (2020) aimed to develop a new design view regarding the new construction in the historic environment. Ömercioğlu and Uçar (2012) shared their experiences with the new approach they applied in their second-year design studio. Recently, in the literature, the studio is mainly discussed over the effect of Covid 19. Studies in which architectural educators contribute to the discussion environment through studio experience are also found in the literature, where they aim to share new approaches or to reveal their design views on a particular subject. These studies, shared in national and international publications and

symposiums, are undoubtedly a guide from which other architectural educators can benefit when constructing an architectural design studio. The educator can use the inferences from such studies to develop a method by filtering them.

Second Year Architectural Design Studio Experience

In this study, an architectural design studio is examined through the example of studio 201 A. Studio 201 is included in the curriculum of the Özyeğin University Faculty of Architecture and Design, Department of Architecture in the first (fall) semester of the 2nd year (Table 1). The scope of the course is defined as follows in the studio culture document: "Within the scope of this course, small and medium-sized architectural designs are developed depending on the place and function where the design will be produced; form and structure features are examined, and designs are presented with various architectural representation tools." (URL-1) According to the same document, the course outcomes of 201 are 1) To explain the universal, local, social, and cultural context with which architectural design is related; 2) to interpret the data in the architectural design process with creative thinking; 3) to develop a medium-scale architectural design with the information obtained during the design process. 4) To design by using the knowledge about the natural and built environment and various tools.

Table 1. *Structure of the Architectural Design Studio in the Curriculum*

	Fall	Spring
1.year	Design	Architectural Design Studio I
2.year	Architectural Design Studio II	Architectural Design Studio III
3.year	Architectural Design Studio IV	Architectural Design Studio V
4.year	Architectural Design Studio VI	Graduation Project

In this framework, two primary components direct the setup of Studio 201 A, which we conducted in the fall semester of 2021-2022. The first of these are the essential skills the studio should gain for students depending on its position in architectural education. The learning outcomes targeted at the studio mentioned in this paper are listed as designing, critical thinking, research, acquiring the principle of sustainability, questioning the relationship between nature and human, social and cultural positioning and interpretation, analysis, and interpretation according to the European Credit Transfer System (ECTS) (Özyeğin University, ECTS Course Information Form). The other component is the students' first-class experiences with distance learning before the studio. Their first-year experience with distance education has caused them not to gain the expected competencies in many fields. For example, at the beginning of the semester, their experience in the three-dimensional comprehension of space and place was limited, and their scale perception and drawing proficiency were not developed properly. They had trouble comprehending topographic features. The studio had to play a more active role than ever at these points, and various arrangements had to be made to fill these gaps in knowledge, with slow or even

back steps when necessary. For these reasons, short exercises were adapted to the studio, and studies were carried out. On the other hand, the experience of the first year spent with distance education due to the pandemic also prevented the development of meaningful communication between students. The students were as foreign to each other as they were to the education, the place, and the studio. For these reasons, the students were directed to work in groups in a significant part of the studies carried out. These works, in which they also used the studio effectively, were essential to establishing relationships, developing friendships, and producing in the studio. The activities added to the process primarily aimed at strengthening the interaction between each other and keeping the process as dynamic as possible to enable the students to adapt to the studio more quickly after the pandemic.

Method

Kosuyolu district of Istanbul was chosen as the studio's location (working area) (Figure 1). When evaluated in terms of low-rise structures and green space density, Koşuyolu offers a suitable environment for children. Koşuyolu is an environment where the neighborhood culture is still partially preserved, and the neighborhood relations and sense of belonging are strong. Currently, the density of educational venues for children is high in the region.

Figure 1. *Koşuyolu*

The subject of the studio is determined as kindergarten. Therefore, the studio focuses on Children and Space in the metropolis-Istanbul. The topics "Child in the city, child in the metropolis, child today, child in Istanbul" were discussed in company with the research and presentations made by the students during the studio process. The studio's location and subject are indicated on the studio poster (Figure 2 on the left).

Today, children live in crowded, unsafe, and unqualified environments in big cities, and these conditions limit children's play and learning opportunities. When we look at the studies examining the subject of children and space at different scales, it is possible to encounter similar findings frequently. The studio aimed to provide a basis for looking for other ways around this. For example, by understanding and accepting the present, the studio aimed to construct spaces according to today's dynamics and even try to foresee the future, good and bad. In addition, it is aimed to deepen the discussion in the

6

context of child and space and to make peace with time and what time brings. In addition, it is aimed to explore and imagine new and new "alternative" experiences through design. This studio's most crucial research route is undoubted "child," "child development and needs." In order to understand this subject in detail, readings were done in the studio, and other disciplines and their research were used. What does the child expect from the place? In this context, the primary motivation of the studio is to produce non-imposing participatory, innovative, and alternative spaces for the children of today – even tomorrow.

For this design research to be carried out freely in the studio, a specific architectural program was not given to the students. Instead, concepts such as dreaming, exploring, learning, and growing, could be a guide – more of which were expected to be suggested by the students – and key actions such as art, sports, games, and books were listed. The scenario and the program were developed by the students, sometimes collectively and sometimes individually, within the studio's scope, and the spatial organization and structural setup compatible with this program were developed.

Process

The studio aimed for students to develop original conceptual ideas about the subject of "children and space" and to transfer their ideas to new strategies/ scenarios. As a result, to create the spatial setup required by their scenarios and express this setup correctly. Students were guided to work on physical and digital models and were expected to produce new productions (drawings, models, and models) for each stage. Workshops were organized within the scope of the studio, joint productions and short presentations were made, and it was ensured that all productions were accessible to every student throughout the semester. Studio 201 A is structured in three modules (Figure 2).

Figure 2. *Setup of the Studio*
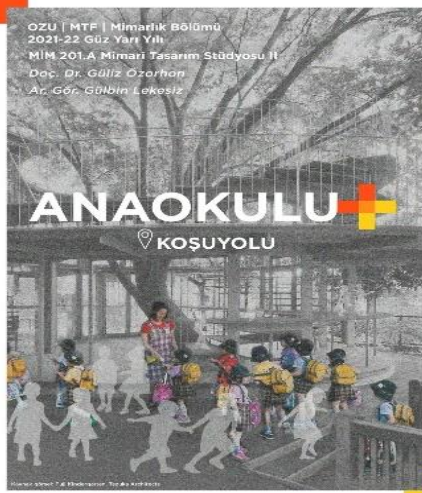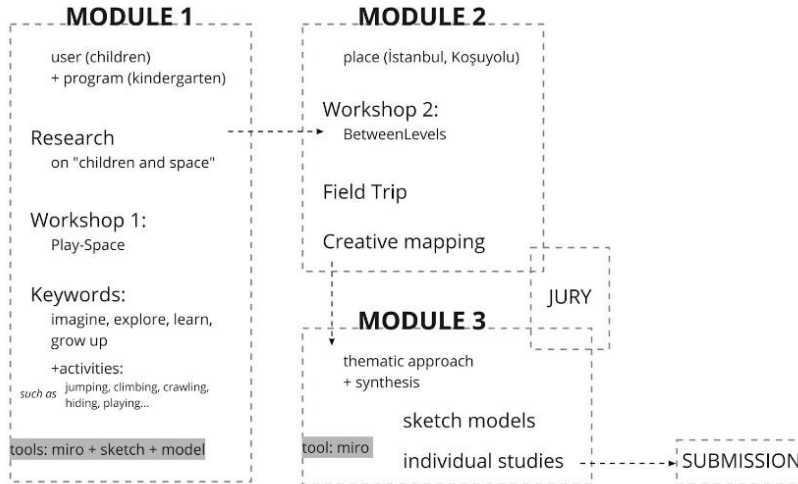
Module 1: User and Program

The first of these modules focuses on "user" and "program". First, the students researched the subject of "children and space" and presented their research results in the studio. At this stage, the first "playground" workshop was held in parallel. Within the workshop's scope, students were given four concepts (imagining, exploring, learning, growing) and were expected to design a playground that would respond to at least five actions (jump, climb, crawl, hide, play...). This workshop is planned as a first exercise to reflect on the topic. The problem is this: designing a space, an experience area to be located in the garden of Ali and Ayşe's house, where they can spend time with their friends, dream and activate their exploratory impulses. The workshop's primary goal is to raise essential awareness of "child" and "child behavior", from physical characteristics to psychological needs. In the study, first of all, research was done by working collectively, but after this stage, individual suggestions were developed. Finally, the discussion was expanded by encouraging students to take the floor on each suggestion. With the contribution of this discussion, the proposals took their final form and the workshop was completed with drawings and models.

Module 2: Place

In the second module, the focus is on "place". Kosuyolu Neighborhood (Istanbul), which was given to the students as the project area, was investigated from different aspects in the process, and various mappings were produced (Figure 4). First, Koşuyolu district was analyzed in general with its history, demographic-social structure, and settlement features, and in the second stage, a smaller area was focused. All the buildings in this area with their formal and functional features, the green texture character of the area, and pedestrian and vehicle movements in the area have been tried to be understood. A trip to the site was arranged so that each student could experience the place. Students

were encouraged to present their individual experiences of the place on the map. Studio student G. G. described Kosuyolu as follows:

"When the traditional structure of Kosuyolu is examined, it is a low-rise, convenient for public transportation and vehicle use, flexible and providing opportunities for physical activities and pedestrian transportation. It provides an area where children can play in the park and be in nature, and where parents can drop their children off at school, preferably within walking distance."

Figure 3. *Examples of Students' Mapping Works*

Considering the difficulties experienced in understanding the topography caused by the lack of physically experiencing the place during the pandemic, the second workshop held in this module was planned as a study centered on topography (Figure 4). In this study, the students designed a public transition area for the neighborhood's residents in a very sloping and narrow area with a compelling topographical character (Figure 4). While developing their designs, students were guided to work with sections and models under the structure of the problem.

Figure 4. *Information Sheet of the Workshop (left), Examples of Student Works from Second Workshop*
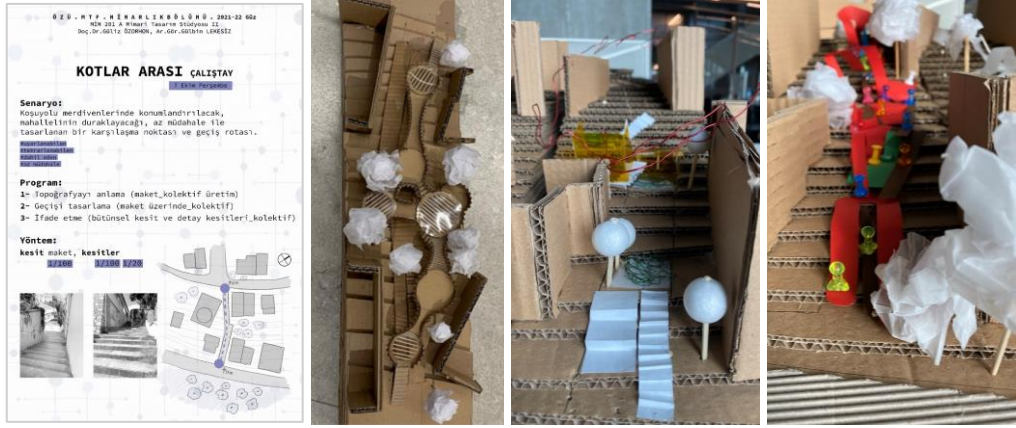
At the end of the second module, a sketch exam was held. Students worked on a specific design problem for 4 hours in this study. The problem was structured in connection with the studio's subject; this time, the students were expected to design a small activity area for children in a different environment. In this way, space was opened to think about the subject once again, and the drawing and design skills of the students could be observed.

Module 3: Thematic Approach and Synthesis

The last module can be read as a synthesis module and the maturity period of the project. After working on the user (child) in the first module and the place (Koşuyolu neighborhood) in the second module, it was aimed to develop a unique "theme" in the last module that brings together the outputs of both modules. After revealing the theme approach based on their research, each student suggested an appropriate architectural program. It can be said that the following process is more generic and progresses faster. After the discussion and maturation of the program proposed by the students, the first seeds of the architectural design idea were planted. Together with the jury (Figure 6) and critics, ideas turned into drafts, drafts into projects, and a more mature and developed architectural product emerged. At the last stage, the projects were submitted as end-of-term homework using two (plans, sections, and views) and three-dimensional representation methods (perspectives and models).

Figure 5. *Model Samples from the Project Development Process*

Figure 6. *Jury*


Studio Outcomes and Discussion

It is clear that architectural design is not a process to teach but a process to experience (Ozorhon & Lekesiz, 2021). In this section, the studio experience of the students is examined through their productions. For this analysis, the transition process from concept to design and the components involved in this process are illustrated. Then a joint evaluation is made with the comments of the studio participants (executives and students).

Student Works

First, students' project development processes will be explained with sample productions. As mentioned in the previous sections, each student was first expected to develop a thematic kindergarten approach. For this approach, the students conducted research on the child, the child's needs, and the spatialization of these needs. On the other hand, they researched how a place should be where children who will become adults of the future will experience the essential experiences of the early childhood stage. They developed their theoretical research by observing their own childhood experiences and the children around them. They examined current and qualified kindergarten projects in the

architectural media. These studies were presented, discussed, and developed in the studio. For example, one student suggested a kindergarten without borders and corners (Figure 7 left), another suggested an ecological kindergarten aiming to be intertwined with nature (Figure 7 middle), and another developed her concept by researching the colors, forms, and dimensions in the minds of children (Figure 7 right).

Figure 7. *Examples of Students' Concept Boards*
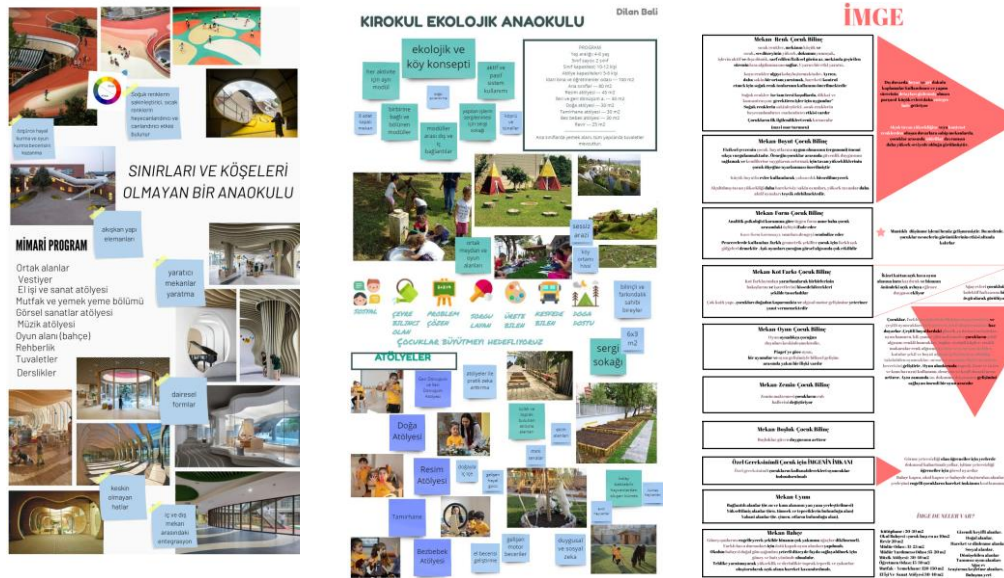
After this stage, each student has matured their approaches by highlighting various subjects and concepts. The students named their projects in parallel with their thematic approaches, and in the following weeks, they tried to program and spatialize their approaches. At the end of term 201 A, students developed 12 alternative approaches to kindergarten design in Koşuyolu (Table 2).

Table 2. *Students' Thematic Approaches and Examples from Projects*

Name of the project *(depending on the thematic approach)*	Brief of the project	Sample production from the project
Terra Kindergarten	The student aimed to bring nature and the child closer in her project.	

Milky Way Kindergarten	The student designed her project intending to allow children to move freely.	
Adventure Kindergarten	The student aimed to design an adventure space to nurture the child's sense of discovery.	
Prairie Ecological Kindergarten	The student aimed to create opportunities for children to experience nature directly in her project.	
Run-Run Kindergarten	In her project, the student primarily aimed to provide opportunities for children to run and move.	
Inventor-child Kindergarten	The student aimed to design a flexible space where the child directs the space and uses her/his creativity.	
School without borders	In order to create a sense of freedom in space for children, the student set out the concept of infinity.	

Exploration Kindergarten	The student designed the kindergarten to keep the playgrounds in the center that will allow the children to explore.	
'Minik Bilge' Kindergarten	The student aimed to strengthen the interaction and communication of children by creating open-plan spaces in her project.	
Daydream Kindergarten	The student asks, "What kind of kindergarten does the child want to be in?" Based on the question, he adopted the concept of spatializing the stories in various children's films and books.	
In-between Kindergarten	Based on Aldo van Eyck's concept of "in-between", it aimed to produce intermediate spaces that will create dialogue opportunities for students.	
Image Kindergarten	The student focused on the child's imagination and designed her project based on the image of the house in the child's mind.	

Students were expected to create explanatory reports about their projects, that is, to explain their concepts and thematic approaches in writing. For example, T.A.'s "In-between Kindergarten" project started from the concept of "in-between" explained by Aldo van Eyck. The student describes his project:

"Influencing in children is a relationship that occurs only through being affected, that is, a dialogue. For van Eyck, who defines the situation formed by the combination of the expressions 'inter', 'me', and 'other' as a dialogue and explains it with the concept of 'in between', all practices aim to produce intermediate spaces that will enable this dialogue to occur. In this process, as space transforms into space, possibility turns into time and becomes continuous, endless space and

time by 'opening' the discontinuous, discontinuous, impermeable, finite pieces of space. Thus, functions, roles, and identities between all relations elements, from the smallest scale to the largest scale, create space continuity by separating the constructed space boundaries. These elements can be reproduced for children with examples such as inside-outside, house-street, house-school, table, and chair. As these boundaries are opened in spaces, Aldo van Eyck's idea of "finding the infinite in a finite playground" is supported. Thus, it can be seen that unexpected relationships and different possibilities between children emerge."

Moreover, G.G. named his project "Inventor-child Kindergarten" and described her project:

"As the starting point, the kindergarten united under the concept of an open workshop where children can learn teamwork while reading a book and make ceramics in a different area while improving their motor skills. It aims to reflect that every space has potential with the cloakroom and multi-purpose staircase area in the corridor, which connects the child to the workshop and classroom groups, which is the main space of the building, since the entrance to the kindergarten. The kindergarten, which aims to teach how to protect our natural values and minimize waste, shapes the circulation of the workshop and the concept of the kindergarten with its recycling materials and handicraft warehouse. Knowing that the possibilities and arrangement of space can shape the imagination and abilities of the child; A story has been constructed in which definite boundaries and walls do not limit the movement of children, and where the space guides the child, but where the child directs the space according to the child's flexibility and creativity."

Evaluation of the Studio

As Karamaz and Ciravoğlu emphasized, there is no single truth for architectural design education; architectural education aims to raise intellectual individuals, adapt to changing conditions, and have a high level of awareness and ethical consciousness (Kararmaz and Ciravoğlu, 2017).

We had a different priority when constructing the 201 A studio compared to previous periods. This would be their first on-campus and face-to-face studio experience. They had completed their first year entirely with distance education. It can be said that they have never been together in real terms, and they have not even been fully acquainted with architectural education. For this reason, two workshops were held, both of which had two main objectives: 1) to increase students' awareness of space and environment, and 2) to begin to understand the dynamics of kindergarten and Koşuyolu. In these studies, models were studied in addition to two-dimensional drawings and sometimes primarily. Students were encouraged to sketch and develop new and original ideas while digital media (miro etc.) was used. Using digital tools suitable for this collaboration and production was also a critical skill acquired during distance education. It continued to be a part of the studio after the pandemic.

In the 2nd module, with the infrastructure of the 1st module, the students created their unique kindergarten themes and programs. On the other hand, they observed the area more closely with the study trip to Koşuyolu and literature research and prepared various mappings and presentations. In the following weeks, they spatialized their programs, tested their ideas in two and three dimensions at each stage, and discussed with the instructors and among themselves. Most of the group's students were enthusiastic and hardworking, and the group's participation in the lesson was outstanding. The collective works (Figure 8) carried out in the workshop were very beneficial in intra-group communication and interaction. They maintained an intense dialogue with each other and with us as a group until the end of the semester. This was an important achievement for their first semester at school. This environment also contributed significantly to the success of their students: they criticized each other, sometimes warned, sometimes pushed, and motivated.

Figure 8. *Collective Works of the Studio. Left: Presentation, Right: Model-Making*

In the course evaluation made at the end of the term and attended by 83.3% of the students, the course design was found to be successful and was scored with an average of 4.7 out of 5. For example, students positively evaluated their ability to follow each other's productions and criticisms during the evaluations made in the lesson. Thus, they emphasized the layered learning/experience issue, which is one of the critical elements of the studio. Another student stated in her notes that she was able to bring together all the information she encountered during her education in the studio. When students compared their previous (during distance learning) experiences, they agreed that face-to-face/studio training is crucial for the success of studio training. This determination is essential because of the unique character of the studio course. As Özer and Avcı (2017) stated, the physical space of the design studio is one of the most important elements of architectural education. The users' personalization and adoption of the space create the dynamics in that space and enrich the space. In other words, the designer space feeds the space designer. Many encounters take place here. The student shares more than an experience of which he or she is an active part.

Conclusion

The fact that life is in a never-ending change with each passing day with what is added to it or decreased from it brings a change in the discipline of architecture, which is in direct interaction with life, and ultimately this spreads to architectural education. Design studios, which are a fundamental part of architectural education, should also be aware of this change and even consider the changes that may occur in the future. Design studios should be planned flexibly and dynamically as an experimental and innovative free-thinking and production environment. They should be structured centered on the trio of time (period), space (place), and human (user).

In the studio exemplified in this article, with a similar understanding, the directors encouraged students to understand the realities of their time and think about the future. The study, carried out in an active studio environment, allowed students to be recognized by each other and by the instructors and realize their potential/weaknesses. In particular, the workshops, which were held and spread over two weeks, contributed significantly to this process. In addition to the basic skills aimed to be gained in this studio, some skills that were not developed enough due to the distance education process were also studied. The positive effect of the multi-actor/multi-voice learning environment in the studio has been effective in the development of all students and projects. The first two years are very important in terms of providing basic infrastructure in architectural education. It is clear that the 201 A experience of the students at the beginning of the second year will develop further with other achievements and new awareness in the upcoming studios.

The subject of architectural design studio will continue to be discussed, developed, and ultimately transformed with its dynamic structure. This study has been developed with the intention of making a modest contribution to this discussion environment that will contribute to the development of studio content and methods.

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