Journal of
Design Studio
v:5 n: 2 December 2023

The Architectural Design Studio: A Case in the Intersection of the Conventional and the New

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Research Article / Received: November 25th 2023, Accepted: December 11th 2023
Refer: Ozorhon, G., Sarman, G., (2023), The Architectural Design Studio: A Case in the Intersection of the Conventional and the New, Journal of Design Studio, V.5, N.2, pp 295-312.
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DOI: 10.46474/jds.1394851 https://doi.org/10.46474/jds.1394851

Abstract: This study investigated the evolution of the methods and tools used in the architectural design studio. The focus was on the MIM 201 Architectural Design Studio II course, based on a hybrid approach where conventional and new methods are used together. For this reason, the primary data sources of the study are student productions, observations, and comments of studio tutors. While presenting the data in the article, an approach that fragmented the studio was followed instead of a chronological path. Thus, all studio elements were discussed separately, and their potential was demonstrated. The study showed that conventional tools such as context-subject, critiques, and jury are still essential and effective studio components. On the other hand, it was observed that new tools (QD) joining the studio enriched the studio experience, but the potential of some of them (OB) needed to be developed. Study findings also showed that students preferred face-to-face and active communication in the studio. The learning space was one of the most important parts of the process as an atmosphere for student motivation and belonging.

Keywords: Architectural design studio, Architectural education, Conventional, New.

1. Introduction and background of the study

Architecture is a form of communication where objectivity and subjectivity come together under one roof, and reality is produced due to a multi-layered, asymmetrical dialogue (Güney & Yürekli, 2004). On the other hand, transformations in life constantly transform architecture and the expectations of architecture. Because of this, it is inevitable to bring up architectural education and take action to implement the necessary adjustments.

Even if the commitment to conventional techniques continues today, something new should always be added due to the obligation to keep up with the changing conditions. This article focuses on the "architectural design studio," which is important in this discussion and architectural education. In order to adapt to the innovations of architectural education, it is important to plan the architectural design studio at its center as a multi-layered experience area that is dynamic and flexible, organized with different perspectives, allowing alternative opportunities and open to innovations. For this, it is necessary to share and discuss studio experiences by clearly expressing the positive and negative aspects and the aspects that need improvement to enrich/improve studio methods and tools. Moreover, this knowledge will contribute to increasing the quality of future applications.

This article aims to contribute to the discussion of studio methods, tools, and processes within the scope of the transforming framework of

architecture. In this context, the article investigates the conventional and new methods used in the architectural design studio and discusses their unity and position in production. While the studio components are highlighted, the active learning system implemented in the studio is examined within the scope of the collective relations of these components.

Traditionally, architectural education has been structured on a tried, proven, predictable, rational, and ossified value system (Yücel & Aydınlı, 2015). Although different pedagogical approaches were discussed in different periods, architectural education diversified and updated itself in parallel with the changes in time.

Today, architecture schools vary in their structures, curricula, practices, or networks in which they are involved. Although they have historically shared traditional commons, they differ today by adapting themselves to their conditions. Schön (1985) mentioned that it is challenging for schools to determine how the conventional instruction patterns should be changed or expanded to include the body of information and skills that are believed to be crucial to the emergence of architectural positions. Institutions that undertake architecture education have to work to meet specific demands due to their internal and external dynamics. According to Callicott and Sheil (2000), architecture schools should create ambitious agendas in discourse, knowledge, practice, and research. They should ask new questions and show they can be asked again by looking at old ones. They should avoid being stagnant and staying only within the institution; if necessary, they should challenge all the institutions they work with and avoid being hierarchical throughout the whole process. In this sense, architectural education institutions must open their formal structures and practices to different experiences.

Although the components of a design studio vary by school and curriculum, the primary resources are the studio space, tutors, students, projects, and critiques. The studio allows students to learn, communicate, discuss, and experiment. Here, students can explore new technologies, materials, and past/current topics in architecture.

In architectural education's conventional studio teaching method, the educator is in the 'tutor' position. The student is in the 'learner' position, and design knowledge is conveyed with the master-apprentice method. According to Salama (2008), in recent years, several studies have challenged university professors to create teaching strategies embodying transformative pedagogies, changing how they view students from passive listeners to active learners. Tutors have learned to become not only master practitioners but also master coaches. They have learned to respond to what is imperative and present in the studio, which is often not the practice, to make more explicit assumptions, strategies, and values (Schön, 1985).

Studio-based teaching is a central component of the architecture curriculum that enacts traditions of design culture and mirrors future workplace practices in which prospective designs are discussed, critiqued, and challenged (Ardington & Drury, 2017). Studios are dynamic, open to innovations and developments, and collaborative and experience-based learning environments. Beyond this, the studio refers to a process in which the learning activity is highlighted, and students practice learning through the design object. Contrary to the conventional method, these approaches, called experience-based studios, include content where the tutor assumes a facilitating and supportive mission. This approach removes the tutor from being the only source of information in experimental studios.

On the other hand, students try to solve design problems by experiencing them and producing alternative concepts in experimental studios. Schön (1985) says that the design studio has developed the tradition of learning-by-doing – the tradition of project-based education, which often seems innovative; the more specific traditions of work, review, and criticism; and the less easily-named traditions that inform how groups of students learn from one another. The primary characteristic of active learning is that

students are engaged in individual or group activities during the course session, including reading, discussing, commenting, and exploring. While the students carry out these activities, they are facilitated by the professor, and students can receive immediate feedback (Bonwell, 1996). Notably, in active learning, students are involved in higher-order thinking that simultaneously involves analyzing, synthesizing, and evaluating a broad spectrum of issues and phenomena. In the context of the university classroom, active learning involves students doing things and thinking about what they are doing. (Salama,2008)

Conventional design studios have transformed how they produce projects. According to Varnelis (2007), with these changes in the pedagogical approaches adopted in studio education, the approach to focusing on the product and beauty, which comes from the foundation of architectural education, has ended. It aimed to develop a new form that would be created open-mindedly, emphasizing learning from the process and making sense of it. Conventional design studios have transformed how they produce projects. Paker-Kahvecioğlu (2007) stated that the main aim of design education is to provide different design experiences, to guide in the taking of an active role and the taking of risks in different fields of design, to facilitate knowledge acquisition, exchange, and processes; to provide a robust communication and motivation medium and to direct it for student-designers that have different cognitive styles and intellectual superiorities. The primary purpose of design education is to offer different design experiences. The studio will guide students to take an active role take risks in different areas of design and will facilitate information acquisition, exchange, and processes. It should provide a robust communication and motivation environment for student designers with different cognitive styles and intellectual advantages.

The views and experiences listed above show that the evolution of the studio has been discussed for a long time. The tutor and student roles, studio methods, and tools differ (Figure 1). The design process, in which the studio tutor is the leading actor and proceeds with his/her criticisms, is replaced by a collaborative production environment, and the studio turns into a polyphonic and dynamic environment. This environment does not entirely exclude conventional methods but functionalizes them within this approach. In addition, the integration of technological tools and the inclusion of alternative design experiences transform the studio. MIM 201 is built on this basis and is shaped by the research of its tutors and the long

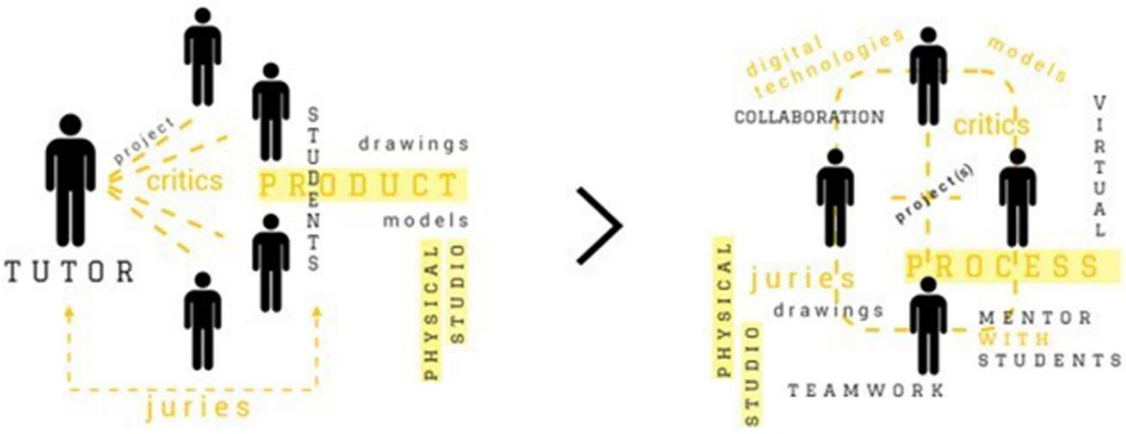


Figure 1: *Conventional to New in architectural design studio*

history of experience they have had since they were students.

1.1. Methodology

Studios always have a special and unique place in architectural education (Çağlar & Uludağ, 2006). This article focuses on the evolution of architectural design studio education in the "intersection of conventional and the new." Since change is inevitable, experiments, alternative methods, and perspectives must be examined and discussed to foresee change and make maneuvers to meet the change healthily.

The article examined past experiences through a literature review, and a current case sampling was made (Figure 2). This method suits this research on the change in architectural design studio education.

The research enabled monitoring and interpretation of the experience of studio methods and tools. These components, each evaluated separately, are context-subject, process, tools, and learning space—evaluating the studio as a qualitative case allowed for testing each tool with the experiences of its tutors and students. Students aged between 18 and 20 (2 boys and 13 girls) participated in this studio, which was run under the guidance of two tutors. In the article, firstly, the organization of the architectural design studio is included, then all the components are presented separately, and finally, the research findings are included holistically.

2. Designing/organizing an architectural design studio

Organizing the architectural design studio is an important issue, requiring experience and research. Moreover, studios may present various and unique challenges depending on their position within architectural education. In this context, early architectural design studios are critical. Here, students are trained in their representation while comparing design and production practices. Students need to develop their three-dimensional thinking skills and deepen their knowledge of architectural culture. In this respect, the first years of architectural education are like the first years of a baby. Students need to develop rapidly and gain awareness in many subjects.

Conventional methods in architecture education include content that focuses on the master-apprentice relationship, where the leader is an expert, and where project development with one-way communication comes to the fore. In this method, emphasis is placed on the jury system and grading stages, where two-dimensional expressions come to the fore. Current architectural education, on the other hand, is an education that aims to raise the level

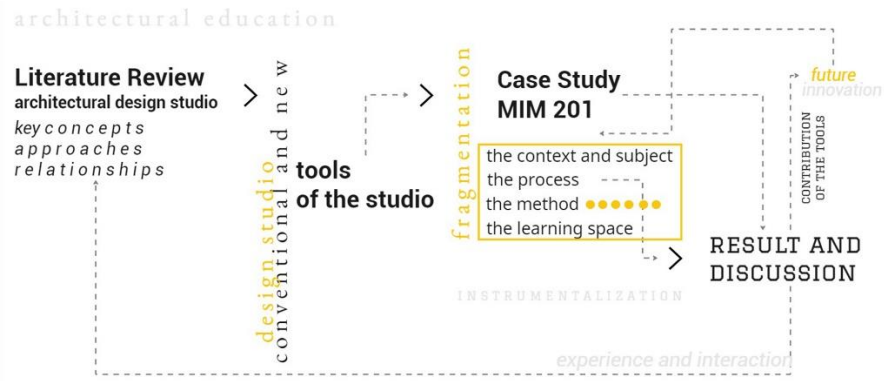


Figure 2: *Methodology of the Study*

of awareness and, therefore, social and environmental sensitivity of prospective architects, as well as to become successful designers and building manufacturers, to provide them with critical thinking skills, and to raise them as intellectual professionals. (Kararmaz&Ciravoğlu,2017) Approaches beyond building production support students' versatile communication with the tutor and each other, and approaches not limited to the physical studio alone enable new studio forms to come to the fore in architectural education. This study examines the combination of elements of conventional studio methods like projects, critics, juries, etc, and "new" approaches such as open boards, peer-to-peer feedback, digital tools, etc. MIM 201, exemplified in the article, is positioned at this point, aiming to expose students to a layered design practice with both traditional and innovative methods.

2.1. The context and subject as tools

A design studio in architectural design education is a process built in the frame of different methods related to the aims that the studio tutor/s wants to learn, where the knowledge gained from other courses is synthesized. The design area and problem mean the selected place and subject serve the determined aims (Uysal et al., 2012). The architectural design studio can be thought of as a project simulator. Here, design problems are described with their context and subject according to the studio's location and the skills it aims to provide. The emphasis here is on something other than the selected context and subject but on the framework they point to. In other words, the context (location) and the subject of the studio are some of the primary tools that structure the studio (planned according to its position in the course plan).

The place of the MIM 201 is Kuzguncuk, and the subject of the studio is children's spaces in the city/metropolis. Child-friendly cities were discussed in the studio, and the studio theme was determined as alternative approaches to children's spaces. The studio aims to deepen the discussion in the context of "Child and Space"

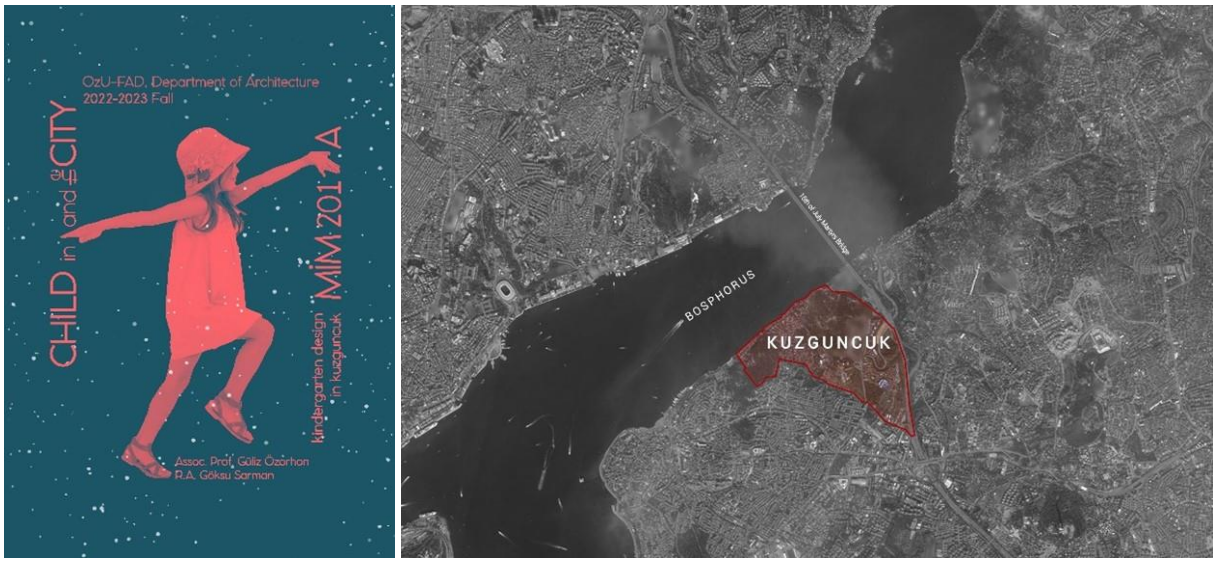


Figure 3a: *Poster of MIM201 /* ***Figure 3b:*** *Kuzguncuk in Istanbul*

and to create new and "alternative" experiences with time and what time brings. As the study area, Kuzguncuk (Figure 3b) is located within the borders of Üsküdar district, one of the oldest settlements in Istanbul. This place was chosen because it offers a qualified environment on a human scale and creates a vital context with its social environment that protects the neighborhood life, green areas, and orchards.

The topic of children's spaces was chosen because it can suggest cooperation with the region to gain the competencies expected in these design studio outputs. It also allows students to work by putting their childhood experiences at the forefront.

2.2.The process as a tool

Process in MIM 201: Although it included primary stages such as research, analysis, concept development, sketching, and modeling, it was planned as a cyclical structure in which students constantly improved their designs based on feedback and evaluation. (Figure 4).

Students are not given a specific architectural program to research and develop their original scenarios freely. Instead, concepts were given, and students were encouraged to think through them and develop their unique programs accordingly. MIM 201 process interactively in a face-to-face manner and planned as three modules. Module 1 is research, Module 2 is reading, and Module 3 is interpretation (Table 1).

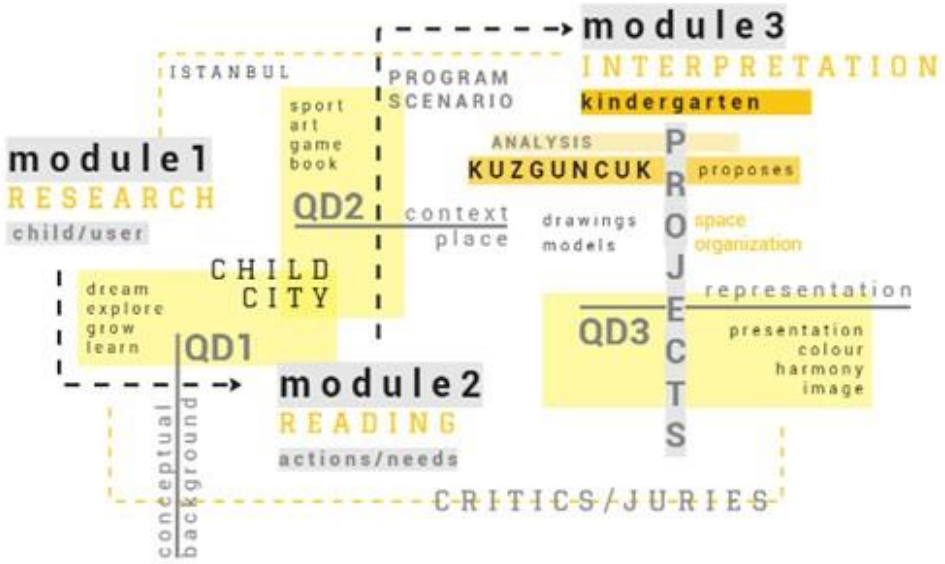


Figure 4: *Process of the Studio*

Table 1: *Modules of the Studio*

		Subject	**Scale**	**Quick Design**	**Output**
Module 1	*Research*	*Child and/in the City*	No-scale	**QD1**	Collage, Video
Module 2	*Reading*	*Children's Spaces in Istanbul*	Istanbul	**QD2**	Analysis, Mapping
Module 3	*Interpreting*	*Kindergarten in Kuzguncuk*	Kuzguncuk	**QD3**	Diagrams, Solutions

Module 1 (Research): This module is developed around dreaming, exploring, growing, and learning. Students researched these concepts through articles and books and tried to deepen their research in the child (user) context. These researches have increased their awareness about the child and enabled them to understand the stages the child goes through during its development, the effects of its experiences on its development, and its physical-psychological and social needs. As the module's name suggests, the studio became an individual and polyphonic research and discussion environment, and students tried to create a theoretical infrastructure to get to know the user. This knowledge and environment have led students to their journeys of discovery.

Module 2 (Reading): In this module, the students were given the second concept set of sports, art, games, and books. With a similar approach to the first module, students investigated and discussed the child concerning this set and began understanding the spatial needs required by these actions.

Module 3 (Interpreting): In the third and last module, the students were asked to make analyses and determinations at the neighborhood scale within the selected project area and to work on their kindergarten designs, which is the primary design problem considered within the scope of the studio, taking into account their previous research. The design process started with the students' scenario and program development phase. Each student created their unique scenario and defined the architectural program required for this scenario. With this approach, students made decisions by researching their programs, without depending on the needs determined within the scope of a specific architectural program, and could shape their scenarios according to the design approach they wanted to highlight. Then, within the framework of the determined program, the spatial design phase was started. Each student worked on designs considering different contexts in different plots within the given area. Sketching, digital drawing techniques, and model studies were used collaboratively in the design development phases.

2.3 The method as a tool

The studio method is the most crucial tool of the studio. Designing the studio method requires planning together the components according to the scope and subject of the studio and at what stage each component and subject will be included in the process. Considering the studio method as a dynamic tool open to innovations and different perspectives enriches the studio.

With this perspective, a dynamic and multi-layered method has been designed combining conventional and new in MIM 201. The components of the method (quick design (QD), open board (OB), presentation (P), critics (C), jury (J), and sketch exam (Se) are explained in detail below.

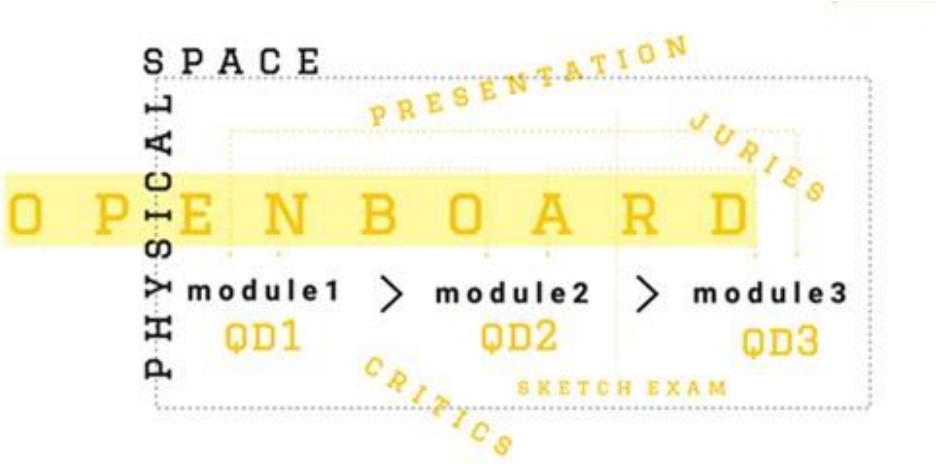
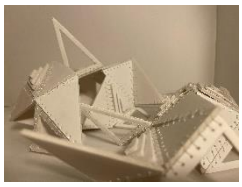
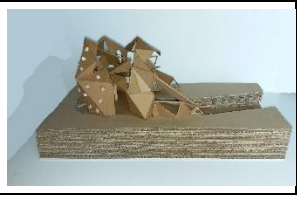


Figure 5: *Tools of the Studio*

Table 2: *Examples of QD 1*

n.	brief description	examples of students' works		
qd1 . plus 5_1	Designing an ***experience area*** for kids			

quick design (QD): QDs are short-term design exercises integrated into each module and aim to develop students' skills in thinking about a problem and producing solutions quickly.

qd3 . plus 5_3

The first of the exercises was carried out in the early stage of the design process when students were introduced to the subject and basic concepts related to the subject (Table 2). In line with the basic concepts, students were expected to develop their designs using sketch and model techniques. By accepting the concepts as the primary guiding element of the design, they were expected to dream of a place where they could dream and activate their exploratory impulses. This place should support the development of all senses of children. Space components can be fixed or mobile. In fiction, the child can be found alone or in a crowd.

In the second exercise, students were expected to think about actions in addition to concepts, and activities such as sports, art, games, and book reading were given (Table 3). Students were expected to develop children's area designs that included these actions. On the other hand, they were expected to add context to the design process, and the exercise was planned accordingly. The students were expected to conduct their research by focusing on the concepts of Art, Sports, Games, and Books and move on to another design stage through two different venues selected in Üsküdar, close to the project area, Kuzguncuk. What is the difference between the two given urban spaces? Where is the child in these places? By taking the questions to the forefront, the students were asked to establish a place to prioritize children's creativity, help them develop it by participating in artistic productions, and highlight their

Table 3: *Examples of QD 2*

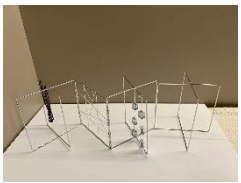
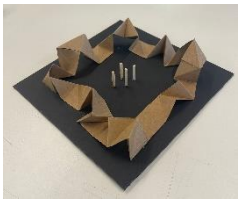
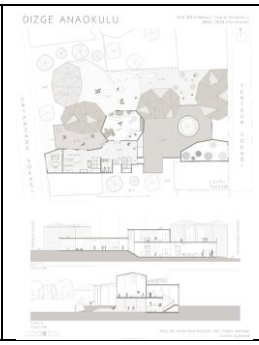
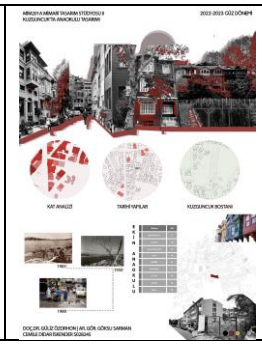
n.	brief description	examples of students' works		
qd2 . plus 5_2	Establishing a space focused on ***sports, art, games, and books*** where context is emphasized.			

Table 4: *Examples of QD 3*

n.	brief description	examples of students' works		
qd3 . plus 5_3	***Representation*** of the design idea, examination, and application of different techniques.			

mobility. The concept sets and poster expressions were obtained from the research phase, and the designs were carried out using sketch and model techniques.

In the third exercise, different techniques were demonstrated in creating content related to the visual transfer of the design problem (Table 4). They tried to develop appropriate productions for their design ideas by sharing examples of poster layout, color use, composition creation, and diagrammatic transfer of information, which have an important place in the interpretation and transfer of design.

open board (OB): Open board is the virtual digital space on a shared file on MIRO. It includes synchronous production during the studio. Students used the board throughout the semester, and the board provided a remotely accessible interactive environment where all participants could observe each other's work, do group work, and add comments from studio tutors. The holistic view of a design process was obtained by collecting the research problems and the process and result products of the short exercises in this environment. Thus, when the students moved on to the next stage, they could quickly access the products made in the previous stages and watch the transformation of the process, and this experience triggered their new moves.

presentations (P): MIM 201 students must be encouraged to express their thoughts verbally, especially considering they are in the early stages of their education and must still be competent in using architectural expression and representation tools. With this perspective, it has been prioritized for students to focus on oral and visual presentation skills since the first week of MIM 201. Thus, "presentations" became an essential tool of the studio, and students had the opportunity to express themselves orally by making presentations.

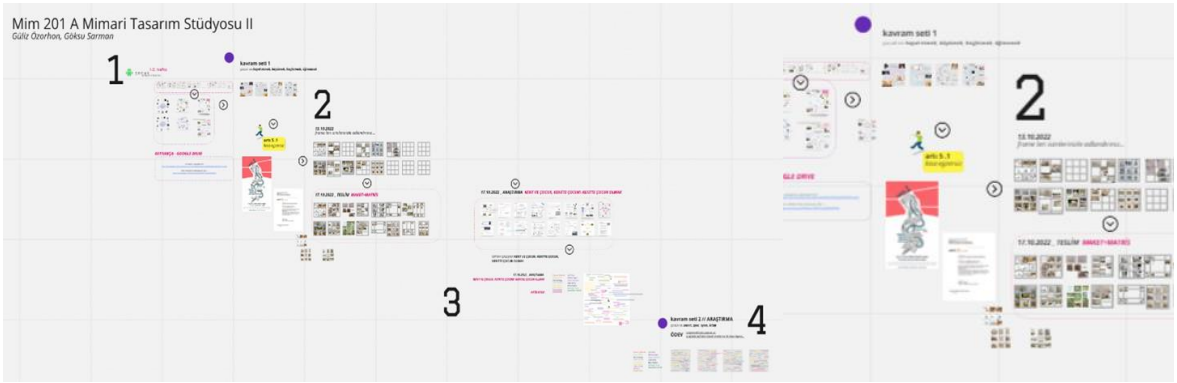


Figure 6: *Open Board – Miro*

Figure 7 a.b.c: *Concept Cloud Outcomes*

These presentations were sometimes individual, sometimes structured as group work, and the presentations enriched the polyphonic environment of the studio.

Critics (C): Projects are the main challenges to work on, and students are expected to apply their knowledge and design skills to innovate solutions. Critiques serve as guiding statements when students are working on their projects. Tutors provide feedback to evaluate more effective solutions to student's ideas. In the studio, students' design ideas are discussed during each encounter and evaluated based on principles, and students are encouraged to mature their design ideas. The learning environment in the architectural design studio is a culture where tutors and students carry and share their experiences (Yurtsever & Polatoğlu, 2020). In MIM 201, the exchange of ideas between the student and the tutor was also important. However, this interaction is not organized in the form of one-on-one criticism but rather as a multi-vocal environment in which all participants in the studio can play an active role and speak. The crit helps to frame students' ideas through negotiation and discussion of the design challenges and problems (Ardington & Drury,2017). Group, individual, and peer critique (students critique each other with the tutor as a moderator) were used together in the studio, regardless of the specific program.

Jury (J): Although it is not a new method, it is still effective for students to present their design ideas to the jury using architectural representation tools and develop their projects

Figure 8 a.b. *: Studio Presentations*

by considering the jury's questions and criticisms. The jury system, an indispensable part of architectural design education since Ecole des Beaux-Arts, has an important place in the casualization phase of the positive and negative aspects of the studio's approaches. During the jury, students are expected to answer questions from the jury members after briefly explaining their work. MIM 201 juries were held with another group of students from the same semester. Thus, students had the chance to receive feedback from other tutors and also watched the work of a group of students who followed a different method. Critics in the juries were enriched with the contributions of students and faculty members. Thus, it was aimed to increase the effectiveness of the students in the studio and to develop their skills in interpreting and criticizing the projects.

sketch exam (Se): In the sketch exam, which highlights the student's evaluation and use of their knowledge within the design studio, students are expected to solve a problem within a certain period. Within the scope of this studio, students were expected to produce interior organization and usage scenario alternatives by considering the use of one of the recurring units within the scope of the kindergarten projects they worked on.

2.4. The learning space as a tool

The general spaces of architectural design courses are studios; in architectural education, studios are learning and communication spaces beyond being a limited physical space. It is a tool that can support and enhance the learning process by creating an environment conducive to creativity, collaboration, and critical thinking. The studio space used in MIM 201 is an open studio where other design groups can coexist simultaneously. The studio has 12 groups and approximately 190 students at the second-grade level. Each group experienced different programs and processes defined by their tutors, side by side, in the same place. The studio has become a rich production and experience environment in this state. Considering that these students received distance education due to the pandemic in the previous semester, it is clear that this pluralistic experience is significant for this group of students. In addition, short-term presentations and lectures were held in small classrooms.

Figure 9 a.b*: Juries*

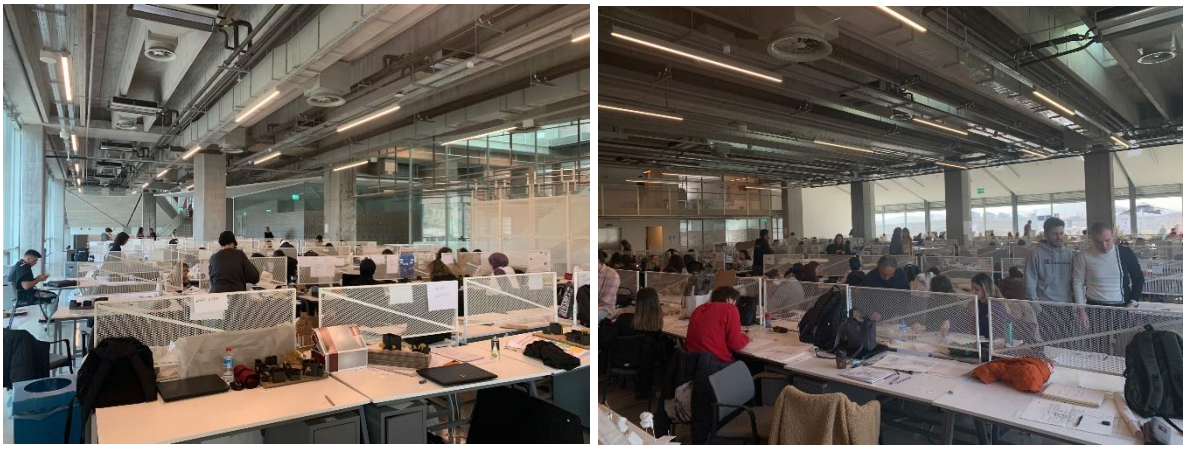


***Figure 10 a.b.**: Studio Space*

3. Results and discussion

Organizing an experience-oriented design studio that uses a combination of different tools is a challenging task that requires careful planning and management. It should be noted that in this approach, educators must spend more time designing and supervising all processes. In this example, the process was monitored, interventions were made occasionally, new resources were added according to the student's needs and preferences, and attendance was constantly monitored.

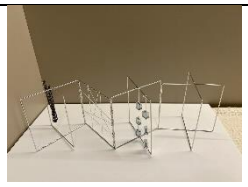
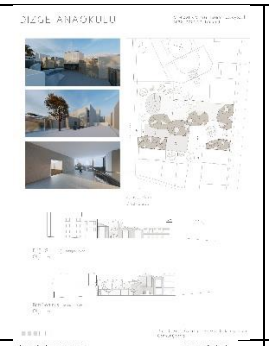
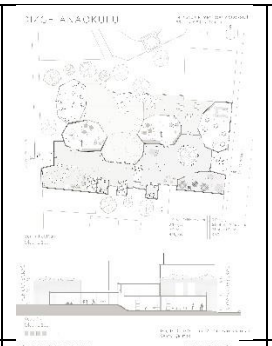
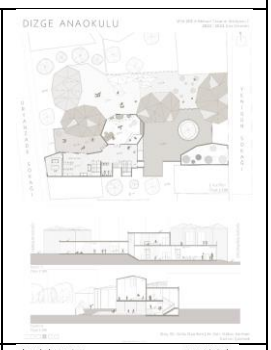
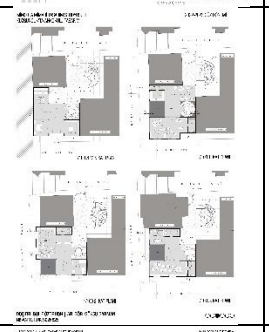
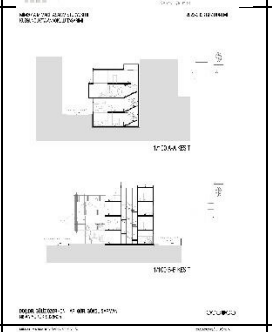
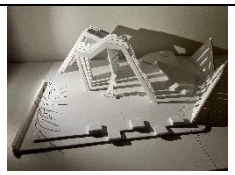
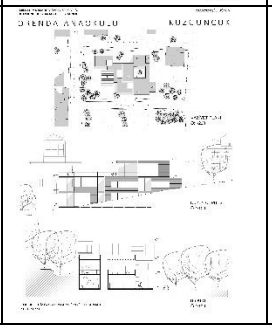
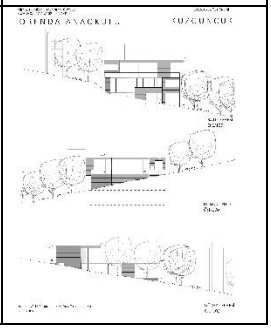
***The contribution of context and subject**:* Guiding and encouraging students to develop their original scenarios and architectural programs throughout the semester ultimately led to the forming original design ideas. For example, S1 worked on the concept of "boundary" and conceptualized this concept through the child's dialogue with his/her environment. She emphasized that in her design, she prioritized the communication of indoor and outdoor spaces to prevent children from feeling limited in closed spaces. For this purpose, she aimed to break the boundaries and communicate with the garden with the retreats and transitions she made. She designed open terraces on the upper elevations. In another project example, S2 placed "context" at the center of the design strategy with the plane tree in the area where she worked. Starting from the idea that traditional settlements in Kuzguncuk have backyards, she designed her construction with this principle. In the design, the backyard was created with a multi-story playground built where the tree is located, combined with the school unit facing the street, thus establishing structural integrity. The main design problem of the studio proceeded through the kindergarten design. However, other QDs conducted during the process focused on children's spaces. The project topic had an encouraging feature because it drew a framework that students could empathize with regarding spatial requirements and content.

The contribution of the process: The architectural design studio offers a prime example of a collaborative, multi-sensory, learner-centered, constructivist, experiential problem-based teaching environment (Kurt, 2009). In MIM 201, students made criticisms and suggestions about their projects and others in parallel with this collaborative approach, highlighting the scenarios they created. A collective communication environment has been created in which dialogue and discussion within the studio come to the fore, rather than individual communication only with the tutor. As Salama (2015) stated, students only learn a little by sitting in class, listening to faculty, and memorizing pre-packaged and ready-made interpretations; they must talk about what they are learning, write about it, and relate it to past experiences of their own and others.

The nature of architectural design requires managing multiple levels of information at different stages of the design process. Information created at one stage of the design process becomes the input and constraint of subsequent stages (Kurt, 2009). In MIM 201, research and production in one module became data for the next module. For example, the design approach in Module 1 found a place in the kindergarten's spatial organization or garden landscaping in Module 3. Context discussions in Module 2 were included in establishing environment-design relationships in Module 3 (Table 5).

Flexible structure and maneuverability are essential for the studio, considering architecture students' varying structures and needs. The MIM 201 studio process has been revised and programmed, and various additions have been made from time to time according to the needs of the students and their feedback. However, due to time pressure, the flexibility of the process has only been partially achieved and needs to be improved. It was observed that students had difficulty in conceptual thinking and using alternative representation tools. For example, in Module 1, students were expected to make collages during the visualization stage

Table 5: *Examples of the projects*

Modul 1	Modul 2	Modul 3		
				
				
				

of their ideas. Although some students were willing to do so, some abstained and joined the process late. On the other hand, although the studio tutors encouraged the students, some had more say during the studio process, and some remained behind. Strategies should be developed to ensure that all students are involved and can actively participate in the studio.

The contribution of method*:* According to Aydınlı (2001), the new responsibilities envisaged for architecture schools emerge in the context of these new conditions, and there is a need for joint studies to develop innovative approaches, tools, and systems. Therefore, it is essential to evaluate the tools included in the studio.

QD: QDs applied throughout the modules allowed the conceptual framework to be formed and to reference each other. Nicol & Pilling (2000) claim that students need regular opportunities to step back from design project activities to analyze and evaluate how they learned through those activities and to provide feedback and performance judgments. Short exercises contributed significantly to the studio's process and enriched the studio discussions. Generating ideas on different problems through short-term exercises and listening to, watching, and criticizing each other's ideas contributed to developing students' design skills.

Moreover, these exercises helped them improve their drawing and expressing their ideas in three dimensions. During the short exercises, students were asked to comment on each other's work, criticize their design approaches by discussing their strengths and weaknesses, and gain experience handling and interpreting another design. This experience includes observing the phenomenon under study and doing something about it (Salama, 2008). In MIM 201, In QD 1, they developed a design idea using their conceptual research; In QD 2, they discovered the importance of context and its contribution to design; At QD 3, they were introduced to the power of representation and its alternatives. QDs, each of which is related to its module, have created breaks that disconnect students from the intellectual process of the design process. It has been observed that these breaks allow students to distance themselves from their projects, thus enabling them to look at design ideas from a different perspective.

OB: With the development of technology, online education components integrated into design education and have become more permanent, especially after the pandemic, are becoming an indispensable part of learning environments. Both physical and online environments diversify/increase the interaction and cooperation between tutors and students, as well as between students. Technology has added a new dimension to the design studio by providing different sharing opportunities for working individually or in groups while providing easy access to digital tools and resources. Within the scope of MIM 201, physical and online learning environments are considered together. The studio is designed in a continuous/unlimited structure that is not limited by course hours and location. Online tools of the working environment have become an extension of the studio independent of time and space. Even after the semester is over, it has been observed that some students visit the board occasionally and benefit from the productions there.

P: Through group work, students were encouraged to discuss among themselves and produce ideas/products together, thus improving their ability to organize the process independently. In the presentation of all these studies, it was observed that the students' expressions (both visually and verbally) improved, and they even included the new concepts

they learned during the studio process in their expressions. For presentations to be more effective, students' competencies in research and presentation skills need to be increased. On the other hand, it has been observed that students are more willing and active in the presentations they make via computer. This shows the importance of increasing the effective use of digital resources and tools in studios.

C: The students undertake a design project under the supervision of a master designer or professor in the design studio. Critiques, a vital part of this approach, are designed as an arena in MIM 201 where different ideas are discussed around the same table, where students can follow alternative approaches and express themselves freely. In order to ignite the discussion environment, from time to time, the tutors retreated into the background, and from time to time, they became more active. In addition to improving students' perspectives, this environment was also beneficial in developing their self-confidence in expressing their ideas.

J: Juries, an indispensable part of the conventional studio, nourished the process and enriched the productions by discussing different perspectives. Students also observed different perspectives through juries organized with different groups. The boundaries of the studio became blurred during juries, and the studio's interaction with the environment increased. This openness also enables adaptation to the environment. So, the studio, rather than a closed and linear progression within a sharp framework, has expanded to a framework in which students can nurture their fiction and have the opportunity to develop their designs in a flexible and cyclical work that is open to participation.

Se: The sketch exam aimed to enable students to think about different alternatives and applications without adhering to a single solution in space organization. It deepens the design scenarios they created. During the sketch exam, students had difficulty coping with the problem given in a limited period of 5 hours. The source of the problem is because they are encountering this type of experience for the first time.

The contribution of the learning space: All students of the same level were in the same studio space, creating a substantial atmosphere. Feedback from students about leaving the studio from time to time and using small classes showed that this setup should be revised. It was emphasized that the students were taught in a quiet and isolated environment, separate from the leading studios, and that the studio feeling was removed, making them lonely. On the other hand, open boards (OB) have detached the studio space from its boundaries as a virtual extension of the studio. The educational space defined by the studio space, classroom, and open board has become an essential studio tool. The panels located around the work tables in the studio are identified within the studio space. Students placed their productions on these surfaces, enriching their work and improving their relationship with the space.

According to the students, the tools that contribute the most to studio productions are learning space, context, and critiques. While the subject, QDs, jury, and process also make meaningful contributions. On the other hand, the students see the contribution of the open board and sketch exam as moderate. With an overview of the evaluations, it can be seen that all tools contribute at approximately a similar level, no one particularly stands out or lags, and all components are interpreted effectively by the students.

On the other hand, with this experience, we realized many opportunities exist to improve studio methods and tools. For example, group work can become a practical part of the studio method to encourage student participation and

strengthen belonging relationships. Thus, communication between students will also increase, and the collaborative environment in the studio will be enriched. Another vital potential relates to communication technologies. The willingness of students to learn and use computer technologies indicates a significant potential to include these tools more and more effectively in the process.

As a result, in this example, studio components stand out with their ability to be articulated with each other, as well as their singular importance. Modules that reference each other instead of single-separate studies ensured the continuity of the process. It has also expanded the use of physical space and virtual space from studio time to lecture time. Presentations or juries have been handled more flexibly and designed as environments where students can share their ideas and discuss their thoughts rather than an exam. With the cooperation of all these components, MIM 201 has been designed as a design practice combining conventional and new, where new forms of production are encouraged, and the understanding of working together is highlighted.

4. Conclusion

In an environment where information is constantly changing, the architect must first know the ways of thinking that can respond to this change and difference. The awareness of accessing information and giving it a different position in every context and the ability to transform it should prevent the transfer of formulaic and rule-based information. This situation is increasingly influential in all architectural matters involving uncertainty and contradiction. Raising an architect who can think flexibly, question, transform knowledge into 'new,' and tolerate problems involving complexity and contradiction should be a priority in education (Aydınlı, 2001). The architectural design studio environment should have collaborative practices and flexible solutions, enabling discovery, participation, and discussion (Kurt, 2009).

The architectural design studio is at the center of architectural education. For this reason, it is important to share pedagogical practices (Çağlar & Uludağ, 2006) to develop an understanding of architectural education, question it, and make it innovative, dynamic, and sophisticated (Ozorhon et al., 2012). In this respect, the reflection of current developments in education, the integration of technological changes into design education (Oxman, 2008; Kvan, 2001), and design education as an evolutionary process (Salama, 2005) are current and critical issues.

In this study, using the case study method, the methods and tools of the architectural design studio were examined, focusing on the contribution of conventional and new tools used together in the MIM 201 studio. In this example, a method focusing on the process was adopted, and tools developed taking into account the course content were included. The potential of computer technology and virtual environments was utilized in studio productions. Students were encouraged to take an active role in the collaborative environment of the studio and structure their projects according to their perspectives. Alternative design exercises where students encountered different problems supported the process.

The study showed that conventional tools such as context-subject, critique, and jury are still the most important and effective studio components. On the other hand, it was observed that the potential of these tools gradually transformed and became more prosperous as they transformed into a participatory and collaborative environment. Some of the new tools introduced to the studio, such as QDs, were extremely useful and enriched the design process and student experience. On the other hand, OB, used very effectively during the pandemic, was used with a different intensity by every student in MIM 201. This showed that students preferred face-to-face and active communication during the studio process.

Moreover, this communication environment was more comprehensive than this course; students constantly preferred being together with other groups in the studio space and participating in this atmosphere. Leaving the

studio, even during short-term presentations, decreased the students' motivation, and they continued to work together in the studio space instead of working individually outside course hours throughout the semester. These findings are related to another studio tool, learning space. It again demonstrated its importance for studio production as an atmosphere beyond physical space.

The pandemic experience we recently experienced was instructive for us in this respect and opened a way for us to question/improve our educational strategies. Each university tried to choose the tools and methods appropriate to its structure and develop strategies to use them effectively and competently. However, there was a more painful process, especially in applied courses and programs where these courses are concentrated (Özorhon & Lekesiz, 2021). Due to pandemic conditions, distance education opportunities were created. Architectural design studios, like other components of the educational environment, had to adapt to this situation quickly. The tools we had to use during the pandemic period and some of the methods we developed specifically for this period were added to our design studio setup. As Broadfoot and Bennett (2003) stated in their article comparing conventional face-to-face design studio education with modern internet-based design studios, perhaps an innovative and logical way to create revised online design studio pedagogy could combine conventional and contemporary theoretical viewpoints. Discussing and integrating the distance education experience into the formal education structure continues to be discussed/studied, and the architectural design studio continues to develop and evolve, nourished by experiences. Dreamson (2020) talks about the importance of pedagogical participation in education to ensure the transition from online education is successful after the COVID-19 pandemic.

As seen in the examples mentioned, seeking innovative tools and methods, alternative strategies, and transformative opportunities for emergency and education development is important. It is crucial to conduct experiments and discuss the results of these experiences in order to develop flexible, dynamic pedagogical programs that will enable this pursuit.

Note: N/A
Acknowledgment: The authors would like to thank the students.
Conflict of Interest: The authors stated that there are no conflicts of interest regarding the publication of this article.
Ethics Committee Approval: N/A
Author Contributions: The authors confirm responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.
Financial Disclosure: The authors declared that this study has received no financial support.

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