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An Interdisciplinary Experimental Approach in Design Education: Online Workshop – "Design Your m^3 on Your Campus"

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Abstract

Workshops create a collaborative and/or sharing environment that supports our design education and turns it into an interactive one. They are important meeting places for students who continue their design education in different disciplines in different places to communicate and provide common working platforms. Therefore, such organisations, where versatile gains are achieved, are an indispensable part of education. For this purpose, the national workshop titled "Design your m^3 on your campus" was held online with the voluntary participation of 47 students and 40 academicians from architecture, interior architecture and landscape architecture departments. The widespread use of online communication tools and online studies, which have gained momentum especially with the Covid-19 pandemic, in today's design education and the opportunities they provide have enabled the workshop to be organised online. This workshop was planned to have two important missions in design education. First, to ensure that academicians and students from different design disciplines come together with an interdisciplinary approach; second, in order to create this unity, it is to produce an experiential way that can turn online platforms into channels that can serve design education. Online workshop, designed as one of the experiential learning activities, has enabled one to be open to new experiences, to reveal the advantages of working with different disciplines, to understand and experience different perspectives. Therefore, it is anticipated that the workshop will contribute to other studies in terms of both enriching design education and producing these collaborations

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through different channels. It is hoped that this study, which aims to disseminate the obtained products to a wider area and share information, will be inspiring and guiding for future applications.

Keywords

design education, interdisciplinary education, online workshop, virtual studios

Introduction

In recent years, every field of architecture has been in a process of review and reshaping, experiencing changes and transformations in terms of theory and practice. The most striking transformation in this field has been the rapid and radical changes and adaptations created by the COVID-19 pandemic in design education. Online technologies offer possible new forms of learning and teaching for both students and instructors. Studies to improve existing educational programmes have led to the re-questioning of the ongoing curriculum model and the development of strategies that allow today's mobility.

Design education has three variables that play a significant role: The studio environment, the communication method between the instructor and the student, teaching approach, and studio management (Boarin *et al*. 2020). In the ongoing, generally accepted methodology of design education, students often take a passive role in their projects and are particularly strongly influenced by the tutor's comments or feedback. This situation causes students to carry out their architectural projects passively, focus on forms, and weaken critical and creative thoughts. This method is widely applied in most countries, including Turkey, as stated by Park *et al*. (2022), because both students and tutors can easily control the programme and develop design projects. However, effective and lasting learning is only possible when the learners are involved in the learning process (Schön 1987).

In recent years, many studies on architectural education focus on issues such as learning methods and restructuring of architectural design studios to improve students' creativity (Erçevik Sönmez 2020; Qureshi 2020; Saghafi & Crowther 2021; Dhadphale & Wicks 2022; Kharvari & Kaiser 2022; Mohamed 2022; Ummihusna & Zairul 2022; Briant *et al*. 2023; Çakmakli *et al*. 2023; Grover & Wright 2023; Iqbal *et al*. 2023; Lee *et al*. 2023). The student's understanding of the environment and gain of experience cannot only occur in design studios within formal architectural education. Therefore, in addition to the training programme carried out in the studio, extracurricular experiential learning is a very important component in architectural learning (Ummihusna & Zairul 2022). Especially in recent years, online education modules, which have entered our educational life with the pandemic, have been important educational tools in digitalisation design education. In this context, the need to explore different learning styles and interactions with these tools, which have the potential to offer an experiential approach to architectural education, has determined the research questions of the study:

1. What is the role of experiential learning activities in a holistic and quality design education?

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And/or what should it include as basic qualifications?

2. What role do experiential learning activities play for students?
3. Can interdisciplinary experiential learning activities achieve success?

The fact that architectural education is inevitably in a constant change and/or transformation requires producing different ways, new experiences, revealing and encouraging the advantages of working with different disciplines. Therefore, the expectation from the questions is to develop a study to expand architectural education by using different design tools and communication methods.

Background

Architecture education

Architecture is a unique human activity that blends artistic creativity with scientific knowledge and technology innovation (Taleghani *et al*. 2011). Therefore, as Krier (2010) says, architecture is a synthesis of science and art. In this context, architecture is a multidisciplinary, even interdisciplinary, reflective pedagogy. Architectural education has a long history evolving from the apprenticeship model of education. Knowledge and skills were learned "on the job" through the master-apprentice arrangement. Formal architectural design education first emerged in France in 1819 as the Ecole des Beaux Arts in France (Chafee 1977). This academic architectural education model was developed as an organising tool and the workshop or studio model was created for design teaching (Briant *et al*. 2023). In the first quarter of the twentieth century, other branches of architecture, art and design emerged together with the Bauhaus. Architectural education is a combination of art and science, so its curriculum contains both theoretical and practical subjects (Salama 2008; Heath 2010).

Architecture studio pedagogy

Although learning is essentially a student-centred process, instructors' attitudes, curriculum goals and conditions of the learning environment are also very effective in this process. Therefore, the educational environment has a significant impact on learning. Design studios, which are the central course of architectural education, have been playing a key role in the education of architects since the eighteenth century and constitute the core of architectural education (Anthony 1991; Cuff 1991; Heath 2010; Oh *et al*. 2013; Erçevik Sönmez 2020; Kharvari & Kaiser 2022). Pedagogy generally refers to teaching strategies or a teaching style. Design studio pedagogy includes both theory and practice of design education (Qureshi 2020). The long history of architecture has developed around it as the signature of the design studio. It is the pedagogical mode of architectural education (Shulman 2005; Crowther 2013). Problem solving and design thinking skills are often identified as a core outcome of architectural studio pedagogy (Lidgren *et al*. 2006). The course essentially aims to introduce architecture students to the reflective nature of design by focusing on the process rather than the final product. Therefore, the design studio is the most important course in architectural education where students acquire practical and theoretical knowledge. It enables them to understand ways to creatively transform knowledge into their own spatial design (Schön 1987). Focusing on "learning by doing" the architectural design

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studio exemplifies a collaborative, multi-sensory, experiential, student-centred and problem-based educational environment. The design studio provides architecture students with all the specialisation and knowledge needed to produce innovative and creative design solutions. Its main purpose is to develop students' imagination in design, to enable them to offer creative approaches to design problems, and to express their ideas with different techniques such as drawings, physical models, computer models, photographs or videos (Ibrahim & Uteberta 2011).

However, the effectiveness of the traditional studio format and practices has begun to be questioned in the last few decades. The design process is often developed on an individual basis. In the traditional studio model, the student is extremely dependent on the instructor's preferences (Habraken 2007). Therefore, the instructor's influence on students limits their learning. Students look to instructors for guidance on the progress of their projects. Students seek guidance from instructors on how to advance their projects. But in Kvan's (2001) opinion, In addition to imparting knowledge and guiding the student in acquiring knowledge, instructors also participate in socialising the student about the paths and concerns of the profession. Thus, the design studio introduces the student to the social roles represented in a typical design process. Although the contemporary approach to studio education is still based on the conventional educational model, the research that aims to reform architectural practice and education in the design studio is very important in terms of adapting to the changing needs of the age (Kvan 2001).

Assessment tools and training methods used in the design studio

Many studio instructors and researchers have worked on classifying and developing learning methodologies and communication methods (Bailey 2004; Saghafi *et al*. 2012; Utaberta *et al*. 2013) (Table 1). There is a wide variety of communication methods available in design studios, including digital design studios, numerical

TABLE 1 Learning methodologies and communication methods

Desk crit(iques) Individual critique: One to one discussion – tutor and student
Formative critique (interim crit) Interim review
Summative critique (final crit) Formal (final) review
Peer critique Informal interaction
Group critique (expert crits) Group crit
Public critique
Seminars
Written critique: (May be in the online form)
Panel discussion

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methods that support creativity in interactive design studios (Oxman 2008), use of visual programming languages (Celani & Verzola Vaz 2012), computational technologies (Duarte *et al*. 2012) and so forth. Therefore, the study accepts both traditional techniques and online techniques as elements that improve experiential digital studio education.

These assessment tools are generally applicable in both physical and digital design studios. Although it is thought that tools such as desk crit and individual critique can be used more effectively in physical studios, evaluation tools such as group critique, peer critique, public critique, seminars and panel discussions can also be used effectively in digital studios as they enable it to be carried out by more participants. According to Gross & Do (1999), the digital design studio can connect students with expert consultants and critics who would not otherwise be available to them. Kvan (1997), in his article on Studio Teaching Without Meeting, mentions that there has been extensive research examining the benefits which can be acquired from electronic meetings and electronic brainstorming, and which have concluded that the quality and quantity of ideas are better when structured to take advantage of the electronic medium (Kvan 1997).

On the other hand, there may be differences in teachers' perceptions regarding the implementation of digital studio and face-to-face interactive learning experiences. For example, while the online teachers provided a more technology-driven definition of interactive learning, the face-to-face teachers viewed interactive learning in a more traditional way and equated interactive learning with collaborative learning (Del Pozo *et al*. 2016; Dashtestani & Mohamadi 2023).

Experiential learning activities: interdisciplinary design studios

There are various theories of learning. These are cognitive psychology, behaviourist theories, multiple intelligence, community of practice, experiential learning and situated learning theory (Schunk 2012). Among these theories, experiential learning and situated learning are the two theories that are widely used in architectural education. Experiential learning makes the student a stakeholder, and that alone significantly improves the ability to absorb knowledge. Experiential learning activities also offer a greater chance for students to make the link between their studies and their personal goals, such as career or personal skill development (Hawtrey 2007). Experiential learning, or active, involved learning, learning by doing, or interactive learning, requires that students do not passively acquire knowledge; rather, the student is actively involved in the learning process. Supporters of experiential learning believe that it promotes greater interest in the subject material, enhances intrinsic learning satisfaction, increases the understanding and retention of the course material, develops the desire and ability to be continuous learners, and improves communication, interpersonal, problem solving, analytical thinking and critical thinking skills of the students (Brickner & Etter 2008).

The instructional methods used in the architecture design studio have been inherited. Moore (2001) argues that instructors in architectural studios follow the traditions ingrained over generations without seriously examining the underlying pedagogy. Stanimirovic *et al*. (2023) and Bates *et al*. (2015) also stated that rather than maintaining traditional educational regimes that support outdated forms of architectural practice, schools need to build on new forms of practice due to the variations on the Bauhaus and Ecole de Beaux-Arts models. Experiential learning activities (workshops, internships, etc.) provide opportunities for

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students to develop skills and knowledge. These are not usually part of a design studio experience but are an important input into design training. These are also necessary steps to create supportive inputs for the current studio model and practices.

The emergence of the Internet and smartphones has led to a new way of obtaining information and using data. In the next few decades, artificial intelligence will radically change our perspective on the concept of intelligence and education. Especially, the COVID-19 global epidemic has forced students and educators in many countries to carry out "distance learning" until life returns to normal. The rapid change and transformation in education has made it necessary to enrich and apply virtual and online communication methods and to encourage multidisciplinary studies. Although it is argued that design education requires students and tutors to be face-to-face in the same environment, the fact that lessons can be recorded and re-watched when necessary and that participants from different institutions, cities and even countries can easily be included in the same or different disciplines in the evaluation processes contributes to increasing the quality of education should not be ignored.

Despite the prejudices, online design studios have managed to find a place in hybrid education, which was mandatory during the pandemic and in the post-pandemic period.

In this context, with a multidisciplinary approach, apart from the design studios, experimental design workshops were realised online workshop "Design your m^3 on your campus" on a digital platform. Thus, the study was designed as a supportive tool for the existing studio model. It is thought that the study will be an important study as an experiential learning activity in design education with the participation of national interdisciplinary stakeholders (students, tutors) by improving the studio capacity and content.

Online workshop fiction

Conducting experimental studies by feeding from different disciplines in architectural education will enable students to reveal different thinking and design production experiences. Therefore, it will be possible for students to discover different disciplines for creative thinking, to feed on them and to enrich their designs by using them through experimental studies. Realised with this foresight, the "Design your m3 in your campus" workshop was shaped with new tools from other disciplines to reformulate design thinking, new cognitive structures and creative thinking in architectural education.

The aim of the study, which is carried out with a multidisciplinary approach, outside of design studios, on a digital platform with experimental design workshops:

- To enrich the ability to think creatively and generate different or creative ideas,
- to be able to carry out interdisciplinary collaborative studies with different perspectives,
- to reveal the importance of design as an interdisciplinary process,
- enabling designers from different fields of expertise to work together,
- to be able to develop different ways to produce and share projects in a digital environment, and
- enabling facilitators and participants to establish new working partnerships.

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The stakeholders involved in the "Design your m^3 on your campus" workshop, which was designed to carry out interdisciplinary experiential learning activities, are given as:

- The digital platform of the study, Discord (a free communication application that allows audio, video and written communication with friends, gaming communities and developers);
- facilitators who coordinate the set-up, organisation and operation of the study;
- students who produce the product at the centre of the study;
- academics with relevant knowledge and experience.

Workshop based on the manifesto shown as follows (Figure 1):

Discourse is words and signs based on worldview…
Discourse consists of ***stage*** events and actions…
Volume is the stage where people interact with each other and objects…
Space is a *volume* created to grasp and/or create its own reality,

It was designed for undergraduate students of the department of architecture, interior architecture and landscape architecture to produce a place of maximum 100 m^3 within their own campus areas where they can stage their discourses.

Virtual studio educators consist of academics teaching at design schools across Turkey. Forty academics from 21 different universities took part in the workshop. These academics were invited individually by the architects, interior architects and landscape architects who were part of the workshop organising committee. Their general characteristics are knowledge and experience about the workshop, willingness to participate, allocating enough time and effective communication skills. In addition, the participating academics' ability to use web-based communication tools effectively, to work quickly and instantly in 2D and 3D CAD software, and to provide immediate feedback to students played an important role in the selection process.

The announcement of the workshop was made through official and social channels to universities providing architecture, interior architecture and landscape



Figure 1
Workshop's Setup Map.

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architecture education at the national level. Student participation was ensured by asking them to fill in the individual participation forms prepared on Google Docs digitally via the QR code on the poster or on the web page. In this form, students were asked for their university, department and undergraduate class level. With the help of this information, virtual studios were created with students and academics from different disciplines, different educational levels and different universities, and thus the aim of providing interaction with different disciplines could be realised.

No selection was made among the applicants to the workshop, which was based on volunteerism, and all students who participated voluntarily took part in the workshop. At the end of the workshop, participating academics and students were given certificates of participation. After the applications, a total of 103 students from architecture, interior architecture and landscape architecture departments from 24 different universities in Turkey participated in the final workshop. Before starting the workshop, the students were asked to prepare a presentation to introduce their campus and how they would like to create a volume within the campus. As a result of the workshops, 47 student participants individually or in groups produced a final product in the workshop. A total of 20 products were delivered and presented from all the workshops.

The majority of the students who were unable to submit a project consisted of students who were in their first or second year at the beginning of their education. In a short period of 4 days, they could not deliver a project because they thought that they could not or could not transform their discourse into a product. However, 103 participants followed the entire workshop process from beginning to end.

The workshop consisted of 12 multidisciplinary experiential learning virtual studios. Each virtual studio was organised with an average of five students and three academicians from architecture, interior architecture and landscape architecture design disciplines. The four-day workshop was scheduled to be held on the weekend on the first 2 days, mid-week (Wednesday) after work on the third day, and the last day of the week (Sunday) on the fourth day in order not to interfere with the participants' educational lives (Figure 2).

On the first day of the workshop, all workshop participants came together on a common platform for pre-designed seminars. Then, each participant of the 12 virtual studios met on their own virtual platforms and started their own intellectual discussions within the framework of the space and subject they defined on their campuses, which were requested from the students in advance. Although the working times of the workshops were defined in the workshop, virtual studios were created within the framework of the studios' own dynamics; flexible virtual studios were created for students and workshop coordinators to meet at the times they wanted.

On the second and third day of the workshop, in each virtual studio, at their own scheduled times, students met with the workshop facilitators or their peers on the virtual platform to critique and produce their work.

On the fourth day (last day) of the workshop, the work done by all virtual studios was presented simultaneously with graphical and verbal presentations, and the feedback obtained from the workshop was shared (Figure 2). On the last day of the workshop, a presentation was made open to everyone, not just participants.

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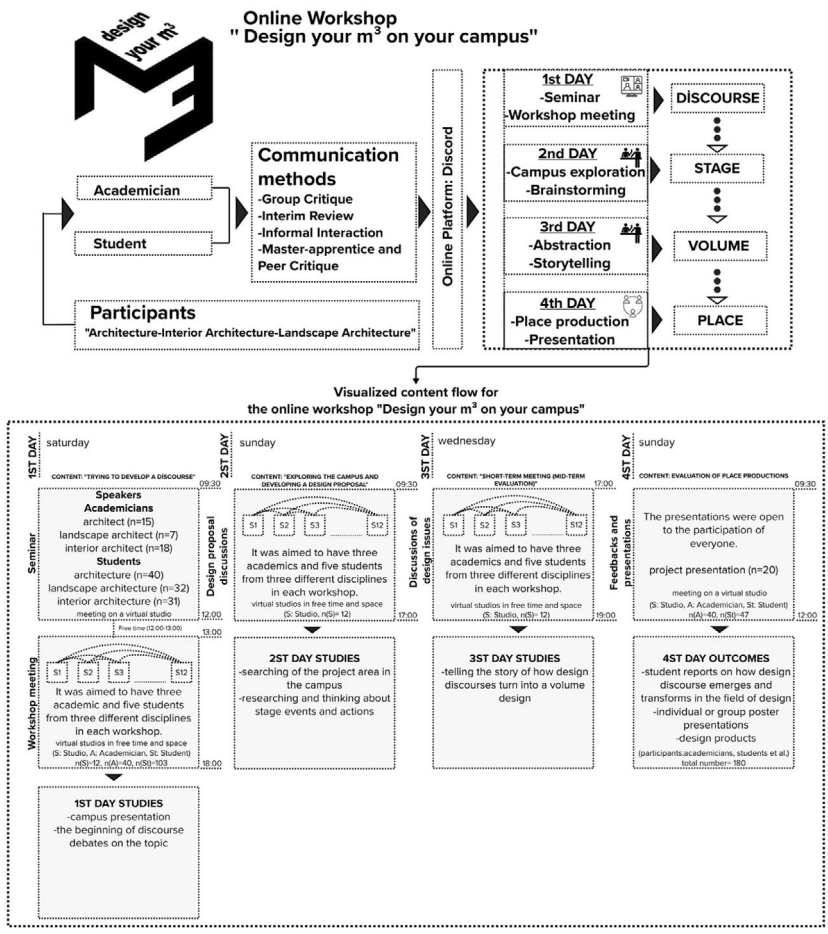


Figure 2
Conceptual and Implementation Process of the Design Your m^3 Workshop on Your Campus.

Methodology

Learning methods used in the interdisciplinary workshop held on the online platform are team-based learning, discussions, problem solving, brainstorming, storytelling and seminars. Communication used both in virtual studios and between virtual studios was provided through group criticism, interim review, informal communication, and master-apprentice and peer criticism (Figure 3).

Design studios are organised to foster informal discussion among students. In an open studio space, students naturally monitor each other's progress, comment informally on each other's work, compare design approaches, or learn certain skills such as drawing and modelling (Cuff 1991). This was achieved thanks to the transitions in virtual studios, so that the student was not limited to group criticism and interim evaluations in her/his own studios. Peer critique is defined as an arrangement in which individuals consider the amount, level, value, worth, quality, or success of the products or outcomes of learning of peers of similar status (Topping 1998). Dutton (1991) notes that an overpowering master's feedback might impede the apprentice's learning and critical thinking (Dutton 1991).

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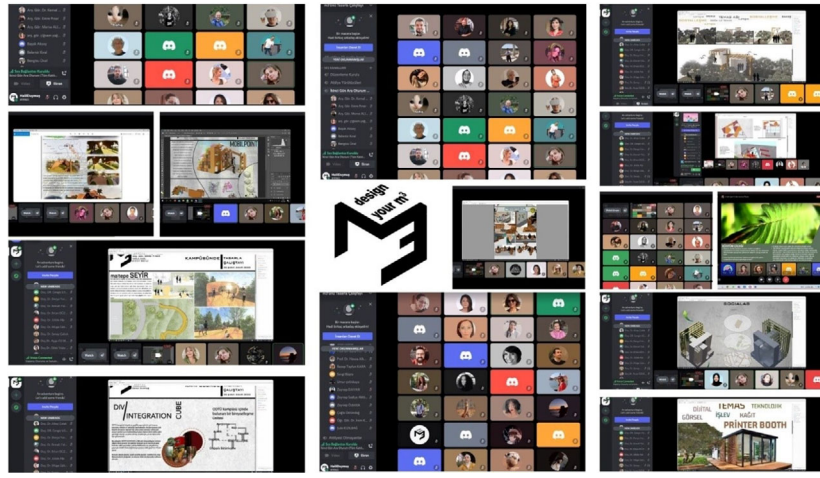


Figure 3
Discord Workshop Environment.

Avoiding desk crits and conducting peer review sessions instead due to the overpowering authority of the instructor discourages students in a desk crit from participating freely in debate, asking questions and reflecting on their own designs.

In this online workshop held with voluntary participation, the student's freedom in designs was not limited, and the student shaped her/his design according to her/his individual preference during the creative and critical thinking process. Peer criticism was also specifically encouraged to be used in the study to support collaborative learning and encourage students to value their peers' ideas. In this context, the workshop is designed to allow students to discuss their personal experiences and perspectives with their peers. On the online platform, students were able to come together and discuss in virtual studios whenever they wanted, 24 hours a day. During the workshop, learning methodologies that were thought to contribute to experiential learning were implemented through communication methods determined on the Discord platform, where students and academics meet online (Figure 4).

Intellectual discussions were held with students and academics about their campuses, which are primarily their study areas, and the volume they want to create on their campuses. A seminar that was thought to support the emergence of suggested ideas was given. Each virtual studio in the workshop produced products with different approaches belonging to their own campus as a result of individual or group work. At the end of the study, each studio presented their group and/or individual designs with graphical and verbal presentations.

The virtual studios realised their work through 12 workshops set up virtually on the Discord platform. Each workshop decided on its design concept and approach together with the academics and students. Students participated in their own workshops full-time during the time intervals determined by the academics, but outside of these periods, both the academics and students had the opportunity to participate in the workshops they wished among the virtual workshops and follow the work done there.

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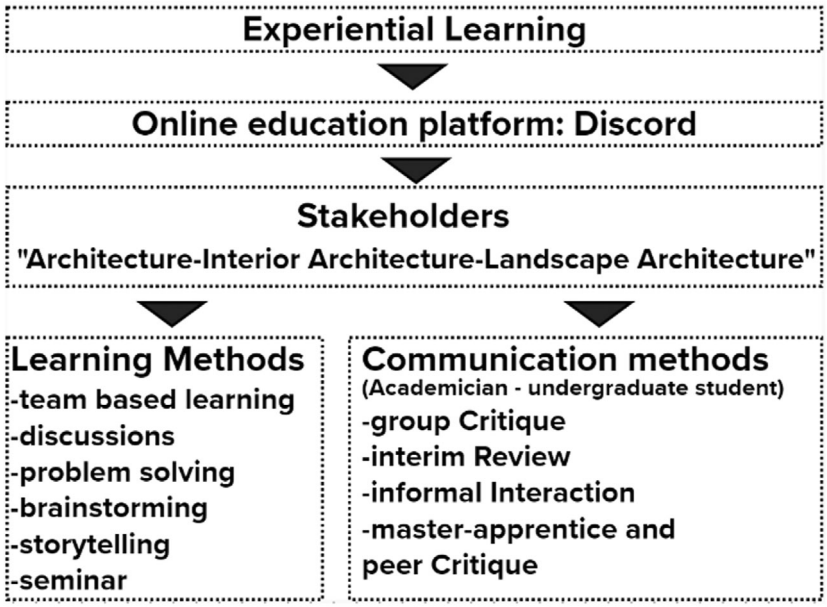


Figure 4
Design Your m^3 on Campus Workshop Experiential Learning Methodologies.

Outcomes from the workshop

The ultimate goal of the workshop was to enable academics from the disciplines of architecture, interior architecture and landscape architecture to approach the same design question from different perspectives and to enable students to produce a more holistic spatial solution by taking these different perspectives into account. In this context, in the workshop, students developed designs to find an answer to a problem, deficiency or to produce a new space in their own campus areas. The academics from different disciplines in the workshops provided critiques and ensured that the final products emerged.

At the end of the workshop, objective and subjective feedback was asked from the participants and these data were evaluated in order to find answers to questions such as the learning experiences of the participants, the challenges they faced, interdisciplinary cooperation and how experimental learning was reflected in practice.

Objective feedback

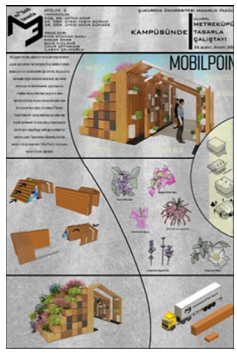
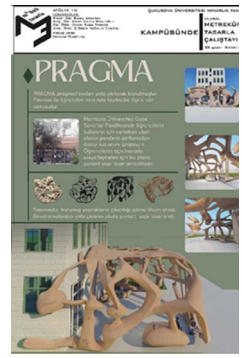
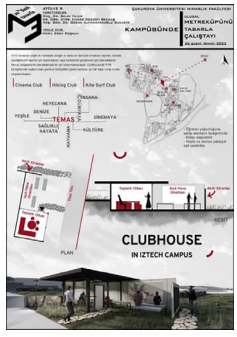
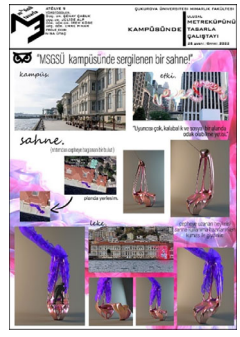
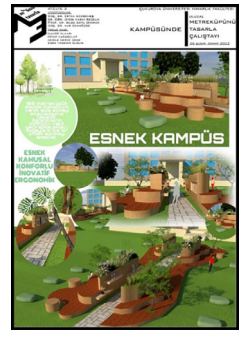
Within the scope of the workshop, student participants digitally submitted a total of 20 products that they produced in groups or individually to the workshop in the defined poster format. The posters, location and design inputs of 9 of the 20 final products are given in Table 2.

When the designs that emerged as a result of the workshops are evaluated, the fact that the participants and workshop coordinators are from different disciplines has enabled the studies to be evaluated with the views of different fields of expertise. This situation has led to the emergence of holistic designs that are handled together with the building envelope, interior space and environment.

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TABLE 2 Some student products of the online workshop

	Mobilpoint	Staircase	Pragma
			
Location	For every campus	Cankaya University	Marmara University
Design	Mobile space made of green plant cells that can adapt to changing climatic conditions and environment	Constructing transition through the concepts of change/transformation and inclusion	Interference with existing structure Social space
			
	Clubhouse	**Stage**	**Flexible campus**
Location	Izmir Institute of Technology	Mimar Sinan Fine Arts University	For every campus
Design	A club venue that will realise the theme of green, sea, healthy life, animal, human and inner world	The scene on display is a cloud that connects from the quay to the facade A social focus	A space that can be added to each campus in line with the needs within the framework of flexibility and sustainability

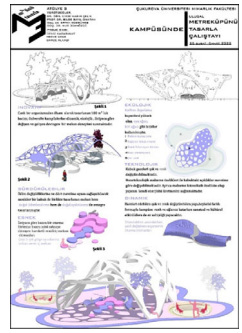
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	Maltepe Seyir	Variable space	Innovative shell
Location	Maltepe University	Cukurova University	For every campus
Design	Observation terrace Inclusion of nature in the design	Flexible space adaptable to change of function, movable walls	User-nature interactive adaptive organic building shell

Subjective feedback

As a result of the workshop, written feedback was received from participating students and academics in order to answer the research questions of the study and to learn their design stories. In this written feedback, those questioned in the workshop designed on the online platform as an experiential learning activity in holistic and quality design education are shown as follows:

- Reasons motivating participation,
- implementation process,
- method of application and
- *40 academicians from 21 different universities* working in different disciplines.

Answers were requested to the questions of what their suggestions could be for the development of the workshop. The written feedback obtained was evaluated by discourse analysis method. These feedback were published as an e-book on the website of our faculty, which hosted the workshop. Thus, an attempt was made to reveal the data of a study aimed at structuring a holistic and quality design education.

Discourse analysis and evaluation of findings

In the study, discourse analysis was conducted through the MAXQDA24 program (Table 3). Discourse analysis is a heterogeneous qualitative research technique based on theoretical perspectives and developed with the contribution of different disciplines (Potter & Wetherell 1987; Tonkiss 2006).

The 47 student participants who produced products at the workshop were asked what motivated their participation and provided written feedback. The first responses were the topic of the event, the opportunity to collaborate with other

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TABLE 3 Code cloud analysis of the workshop

Process		*Codes*: Digital media Meeting points Synchronicity Flexible time Digital tools
Method		*Codes*: Diversity Integration Interdisciplinary Alternative derivation Interactive learning
Outcomes		*Codes*: Digital experience Qualified product Different perspective Thinking ability Wide scale range

professional groups and the fact that the event was online. Feedback with high frequency values is as follows:

- The fact that the design problem determined as the workshop topic aims to provide interdisciplinary interaction positively affects participants' motivation.
- Coordinated workshops led by experts from different fields, including architecture, interior architecture and landscape design, offer participants the opportunity to experience a collaborative and shared design process.
- Providing online access by eliminating the requirement for participants to be in the same city and same place encourages participants to participate in the workshop.
- On the other hand, it was stated that the fact that the online platform used was not known to some users and/or experienced by it for the first time created anxiety in some participants. Despite this, the ease of use and rapid learning of the software did not deepen the problems in the study.

The academic stakeholders from the design disciplines of architecture, interior architecture and landscape architecture who took part in each virtual studio in the workshop wrote a final text describing their own workshops and the process, method and final products of the workshop. The top headings and the results of the evaluations obtained as a result of the feedback written jointly by the academic stakeholders of each of the 12 virtual studios are listed below.

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Outputs and widespread impact of the workshop implementation process:

- By eliminating the need for physical space, a working environment has been produced to encourage the widespread use of digital media and tools in communication technologies independent of space and time in design education.
- With the virtual spaces where many studios were held, it was possible to provide an opportunity for interaction between academics and students individually or in groups.
- Participants had the opportunity to follow and experience both their own workshops and other workshops simultaneously.

Interpretation of the method of implementation of the workshop and its widespread impact:

- An interactive learning experience was provided without being bound by time and space.
- With the interdisciplinary collaboration of different universities and departments, it has enabled them to experience theoretically and methodologically different approaches and to test alternative ways of learning and producing.
- Many participants from different parts of Turkey and even the world came together in these online workshops and developed different ways of discussing architecture and design, producing and sharing projects.
- The voluntary nature of participation encouraged students to integrate more willingly and efficiently into the learning process.

The gains of working with different disciplines in the workshop:

- Project solutions with interdisciplinary perspectives enable students to develop their ability to produce alternative solutions.
- Students from different disciplines can work and produce together on the same subject with different perspectives.
- It reveals the importance of design being an interdisciplinary process. At the same time, designers from different fields of expertise can experience that design can reach a more qualified point when they can work together.

Suggestions for improvement of the workshop:

- In addition to the disciplines of Architecture-Interior Architecture-Landscape Architecture, other design disciplines such as Urban and Regional Planning, Industrial Design, Graphic Design, Painting-Sculpture and Textile Design can be included in the workshop groups.
- Graduates can be added to the stakeholders by expanding the participant profile.
- By increasing the duration of the workshop, the quality of the design can be increased, and it can be ensured that it reaches the production–application level by moving beyond the idea project level.
- In order for participants who cannot attend the workshop to benefit from the presentations and critiques, the presentation-evaluation processes can be recorded and published on online platforms with open access. In this way, the level of access can be expanded and the widespread impact of the workshop can be increased.

Conclusion–Discussion

In general, the design process in design schools is an education-centred process. However, the design process should be transformed into a student-centred

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process because the education-centred activities hinder the students' creativity and prevent them from practicing freely and by questioning. Due to the intensity of the curriculum, the motivating group work that develops the students' creativity and enables them to socialise is very limited. On the other hand, architectural education can be expanded through the use of different design tools and communication methods. In this context, the workshop, which was held online in order to support, renew and transform the design education process, provided an interactive experience environment in interdisciplinary application in design education, where face-to-face education is common. With the online workshop designed as one of the experiential learning activities with comprehensive and original basic qualities for design students, the goals of encouraging the connection of experience and knowledge, producing different paths, searching for unusual associations, ideas and meanings, changing the perspective on the problem, clarifying new experiences and revealing the advantages of working with different disciplines have been tried to be achieved.

The interdisciplinary online workshop has a limitation that covers a period of 4 days. On the other hand, the flexible time and place-less meeting has an important potential for the study to move faster and more efficiently. Another limitation of this study is that the work done can be exhibited in the digital environment. There are possibilities to enrich the process in other workshops. The scope of the workshop can be expanded, the number of participants can be increased, and this working dynamic can be applied with different disciplines. With a hybrid workshop, prototypes or 1/1 scale productions of the designed products can be provided. Thus, the physical exhibition of the products obtained by including the implementation process in the workshop will increase the achievements of the workshop. The workshop can be repeated periodically and the quality of the workshop can be improved as a result of the experiences, criticisms, demands and suggestions obtained from previous workshops. In addition, workshops can be repeated with different methods, face-to-face and hybrid, and their achievements can be compared concretely. The scope of the workshop topic can be expanded. In addition, various limitations, especially the working area, can be designed and the behaviours of the participants and their approaches to addressing the problems can be observed according to the predetermined problem/problems. If the needs of the facilitator and participants regarding transportation and accommodation are met, future workshops can be held face-to-face. Thus, the success levels of online and face-to-face activities in terms of execution and finalisation can be concretely compared.

The online workshop, which was held on an online platform with the participation of students and academicians from the disciplines of architecture, interior architecture and landscape architecture, ensured that communication was fast and accessible, accelerated the exchange of information and decision-making processes and made joint work more effective. In addition, the fact that the participants were from different disciplines enabled them to have an interdisciplinary perspective and experience different perspectives. As a result, it is thought that such studies, platforms and collaborations are important for all participants (academics, students, etc.) to see different perspectives, different methods, practices and to share their knowledge and experiences. We believe that such studies, which are considered to be an important study and experience for everyone, should be renewed and repeated on national and/or international platforms.

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Conflict of interest

No potential conflict of interest was reported by the authors.

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