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Research Article

Architecture, archaeology and multilayered cities: An interdisciplinary design workshop experience

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Abstract
This study aims to reveal the effects of informal workshops and interdisciplinary studies on design education. In this respect, an informal interdisciplinary design workshop is organized with the attendance of 33 undergraduate and graduate students from the Departments of Architecture and Archeology in the ancient city of Apollonia ad Rhyndacum in Bursa. The methodology of the paper, which is developed as qualitative research, is based on drawing the theoretical framework of the concept, conducting the workshop, and analyzing its results. The workshop's theme was to design an idea project on temporary or permanent lightweight structural additions to strengthen the interaction between the urban layers and meet current needs in the built environment. The findings of this workshop show that interdisciplinary informal studies in design education create an environment for the students in which they can participate in a complex problem-solving process, learn to work under time constraints, experience working as a team, learn to respect the views of others and enrich their views with these dissimilarities, experience to visualize their design in the context of the built environment using a wide range of techniques, have the opportunity to share their ideas with residents and local authorities.

Keywords: Design education, Design in archaeological sites, Informal education, Interdisciplinary, Multilayered urban texture

Extended Abstract

Introduction: This article is based on a workshop series that was planned to be realized in partnership with the Departments of Architecture and Archaeology to increase the quality of academic education, create interdisciplinary partnerships, and establish a liberating vocational education milieu free from conventional education's limitations by generating informal education environments. Attendance at the workshops is planned to be on a voluntary basis, and they are open to all students of both Departments who have a personal inclination to these fields. This informal student workshop series, intended to have periodic continuity, aimed to design temporary or permanent lightweight structural additions to strengthen the interaction between the urban layers and meet current needs in the built environment where urban textures from different historical periods coexist. In selecting multi-layered urban textures to be studied, focusing on the areas where the Department of Archaeology continues archaeological excavations was preferred due to ease of implementation. In this article, the process and the outputs of the first volume of the workshop series, which was realized in Gölyazı between 18-22.10.2022, are discussed.

Purpose and scope: This study aims to disseminate informal and interdisciplinary studies in design education and to examine their results based on the findings of Gölyazı Workshop. In the scope of this study following a literature review, a case study designed within this framework is examined in all its aspects and the findings of the study are presented. With this study, it is aimed to produce solution alternatives for a real design problem in an archaeological excavation site with the collaboration of undergraduate and graduate students studying architecture and archaeology.

Method: Qualitative research is conducted in terms of this paper. Within the scope of the article, firstly, a literature review on the history of Gölyazı, which has archaeological and historical importance, and which is also the location and the subject of the case study, is included. The qualities of interdisciplinary informal design education are examined to reveal the theoretical foundations of the workshop. The workshop was conducted with the participation of undergraduate and graduate students of architecture and archeology. The groups were composed of both architecture and archaeology students. This situation motivated interdisciplinary collaboration. At the end of the design process, a colloquium was realized during the evaluation phase with the participation of architects, archaeologists, residents, and local authorities, creating a stimulating, competitive environment for both students and instructors. In the scope of the paper, the workshop process is analyzed in detail under the headings of conceptual framework, goals and objectives, quantitative and qualitative characteristics of the participants, process and outputs. Finally, the effects of multidisciplinary informal design education on students' professional and social development are evaluated through the results of the workshop.

Findings and conclusion: The multidisciplinary working environment defined by the workshop constitutes a small-scale simulation of the interdisciplinary working and design environment that the students will be involved in when they graduate. This simulation is of great value in giving an idea of what kind of vocational milieu they will be a part of and preparing them for professional life. To represent the product they designed, the students used two-dimensional drawings, three-dimensional models, printed tools such as photographs and maps, and models of the structures created using local materials and traditional building techniques. They supported all these visual products with music, their body language, and how they dressed. In this way, they experienced the use of various representational tools prepared as a result of collaborative work. The workshop process was finalized by a colloquium realized with the existence of various shareholders. All proposals were discussed with the contribution of all stakeholders of the built environment. As a result of this debate, the final product of the workshop is decided to be formed by integrating the striking elements in each proposal with holistic design grammar and considering the opinions of city residents and local authorities. This situation enabled the students to realize the importance of participatory process and common-sense in-built environment design. This experience showed the participants that the visible built environment is not the only factor in an urban design problem; the invisible layers of the city are also parts of the problem and sometimes parts of the solution. They also realized that in their search for the answer to a design problem, they had to consider several factors such as human experience, urban identity, the needs of the local community, topography, materials, traditional building construction technologies, flora and fauna. All of these findings show that interdisciplinary informal design activities support formal education, and they stand out with the following features that contribute to the development of students: develop inclination to teamwork; ensure that the effect of cooperation and participation in the design processes is comprehended; create design solutions for a real-life design problem in a short and specific time frame; reveal the interaction of social, cultural, and local elements with technical competencies, topography, and spatial perception, encourage using different representational tools to present the created design solution.

Keywords: Design education, Design in archaeological sites, Informal education, Interdisciplinary, Multilayered urban texture

INTRODUCTION

This article is based on a workshop series that is planned to be realized in partnership with the Departments of Architecture and Archaeology in order to increase the quality of academic education, create interdisciplinary partnerships and establish a liberating vocational education milieu free from conventional education's limitations by generating informal education environments. Attendance at the workshops is planned to be on a voluntary basis, and they are open to all students of both Departments who have a personal inclination to these fields. This informal student workshop series is intended to have periodic continuity, aimed to design temporary or permanent lightweight structural additions to strengthen the interaction between the urban layers and meet current needs in the built environment where urban textures from different historical periods coexist. In selecting multi-layered urban textures to be studied, focusing on the areas where the Department of Archaeology continues archaeological excavations is preferred due to ease of implementation. Gölyazı Workshop, the first volume of the workshop series, was carried out between 18-22.10.2022 under the coordination of the academic staff of the Department of Architecture, and the Department of Archaeology and

with the support of the local government. The aim of the workshop is to create an informal educational environment that supports interdisciplinary studies. Due to this aim, the participants were chosen from the students of two different departments: Architecture and Archaeology. The variety of the educational background and personal capabilities of the participants enrich the workshop process and potential design products. As explained below, the chosen site is a multi-layered city that houses traces of human settlements from different historical periods. Such kinds of cities are also named as palimpsest. The etymological origin of this word is based on ancient practice. Books created by scraping off the ink from parchment sheets or wiping them with water and writing new writing on them are called palimpsests. In palimpsests, even if the old text is erased and a new text is written on it, traces of the old text can be seen under the new text. Interpreting the space as a palimpsest is a kind of layering in which the old and the new are read together. Briefly, it can be explained as a new state of identity (Apaydın, 2019: 91). The multilayered and pluralistic nature of this term opens many concepts to discussion within this framework. Therefore, an interdisciplinary design environment is obligatory to be able to address all the needs of space in a holistic manner when palimpsest cities are the focus of a design problem. Due to all its urban layers, Gölyazı has been accepted as an ideal starting location for an informal education experience. As it contains many different design problems, it creates a suitable platform for interdisciplinary interaction and has a spatial infrastructure. Within the scope of this article, historical information about the location will first be given. Then, the importance of informal studies and interdisciplinary collaborations in design education will be mentioned. Subsequently, a workshop experience created as a result of the interaction of the concepts in question will be examined in detail. It is suggested that such informal studies, which involve a rapid and concentrated production process, have wide potential to increase the quality of design education. Whether the findings from the workshop support this hypothesis will be evaluated in the conclusion.

Location: Gölyazı-A multilayered city

Being a specific example of palimpsest cities, the history of Gölyazı dates back to approximately the 5th century BC. Apollonia ad Rhyndacum (Strabon, 2005: 67) is located on the shore of Apolloniatis (Uluabat Lake) between the ancient Propontis (Marmara Sea) and Olympos (Uludağ), on the border of Mysia and Bithynia, was one of the essential cities of Bithynia in Antiquity (Figure 1, 2). Apollonia ad Rhyndacum, which is named Lake Apolyont (ancient Apolloniatis - modern Uluabat), is 7 kilometers inland when turning south from the 35th kilometer of the Bursa-Karacabey highway. The contemporary road, which connects the settlement to the city, passes through the center of the necropolis, called “Giaour Cemetery” by the residents. Apollonia is located on the northeastern shore of Uluabat Lake, on a promontory leading into the lake. Just like the current Gölyazı settlement, Apollonia is located on three peninsulas, one after the other. The section at the far end called the castle (acropolis), turns into an island during periods of high water in the lake (Kalogeropoulou, 2017: 117). The acropolis is encircled by a city wall, which is thought to have been built in the Late Antique Period. The peninsula in the middle is one of the main settlement areas of the ancient city. According to the data obtained, the settlement extends along the western slope of Zambak Hill, which divides the peninsula into two. The northernmost peninsula, separated from the settlement by a city wall, is the necropolis area of the ancient city.

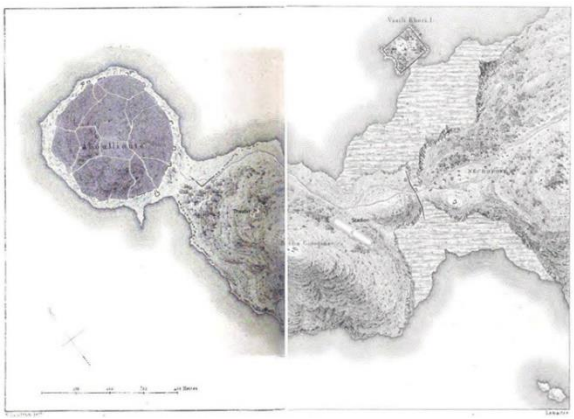

Figure 1. Engraving of the city of Apollonia

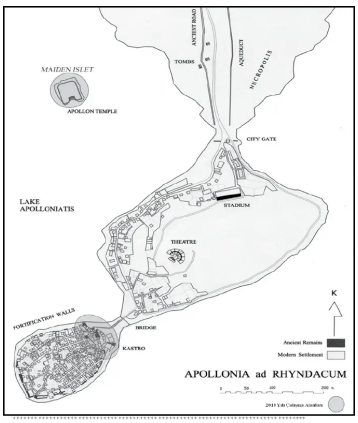

Figure 2. City plan

The public buildings of the ancient city, such as the cult area, stadion, and theatre, are on the peninsula in the middle. The theatre is on the southwestern slope of Zambak Tepe, and the stadion is on the northern foothills. There is a sanctuary with niches on the eastern slope of the peninsula. It is estimated that the temenos belonging to Apollo, the city's patron god, is located on Maiden's Island, approximately 1 km south of the mainland. In 2015, with the permission of the Ministry of Culture and Tourism, rescue excavations were started in the Necropolis area of Apollonia under the direction of the Bursa Museum Directorate and the scientific supervision of Prof. Dr. Mustafa Şahin. In 2017, excavations were carried out in various areas of the city in the Sacred/Niche area and Maiden's Island. In 2018, the excavations were suspended, and in 2021, excavations were resumed in the theatre and Maiden's Island, and they continue today.

The region was included in the Uluabat trade network as the gateway to the west of Bursa during the Ottoman Period. The Greek Orthodox population has been living in this region since the first years of Ottoman rule, and the city of Apolyont is one of the centers of these Greek settlements and trade networks for economic, religious and educational reasons. The city, which was a settlement where cultures with ethnic and religious diversity lived together during the Ottoman period, lost this diversity after the population exchange in 1923, like many other settlements in the region, and turned into a settlement where only Turkish people lived. Gölyazı, under the influence of the process in which the city of Bursa transformed into one of the cities in the peripheral region of Istanbul after the 1960s, is located in the western expansion area of the city of Bursa and is described in the plans as the new industrialization area and the short-term recreational center of the surrounding cities (Okumuş & Bilgin Altınöz, 2018: 521) (Figure 3). Besides the historical and cultural layers, the natural topography, its flora and fauna, and the variety of production methods give the city its unique character.

Figure 3. Airview of Gölyazı in 2024

Interdisciplinary Informal Design Education

Architectural design is a complex process that involves the integration of the information obtained through research with the user needs, environmental factors, and the characteristics and requirements of the urban environment where the building (design product) will be located with the creative power of the architect. Practice at the center of this complex process requires time-consuming, specialized space and careful consultation to acquire the agility of mind, skill, and creativity (Milliner, 2003: 60). Design education has been shaped as a system that includes teaching in specialized spaces and acquiring skills through informal media such as experimentation, reading, and social contact. A medium for a concentrated design education is informal workshops which enable the development and sharpening of design skills in a short time (Turgut & Cantürk, 2015: 88). Workshops are one of the most essential methods of providing students with the informal skills mentioned above. A workshop is defined as a short-term learning experience that encourages active, experiential learning and uses a variety of learning activities to meet different learning needs (Brooks-Harris & Stock-Ward, 1999: 6).

The main intention of design education is to motivate students to think beyond limitations and bias and to become more creative and practical about solving design problems. Informal workshops present an ideal

environment for this kind of training. According to Polatoğlu and Vural (2012: 482), informal design education has undeniable importance such as developing design thinking skills, learning by doing and creating motivation, self-confidence and intuitive knowledge. Bringing various perspectives together, informal design education creates a liberating learning environment where participants find an opportunity to express their personal ideas and be nourished by others. The flexibility of the informal learning environment enables new ways of production by rethinking the conventional hierarchical method (Yürekli & Yürekli, 2004: 61). Another important benefit of informal workshops is helping the student to develop his/her own design approach. Kuyrukçu and Yıldız Kuyrukçu (2015: 2667) emphasize that the independent, undoubted, dense working environment reached at the workshops concludes in the student's arrogating his/her work to him/herself and approaching it with more responsibility. Ciravoğlu (2001: 51) states that regardless of how well the information is presented in architectural education, the student cannot learn to design without having direct design experience and without making his own effort and she emphasizes that the nature of informal studies, shaped by learner-derived desire, offers the most efficient environment for effective learning.

Stretching the strict boundaries of formal architectural education and supporting it with informal educational practices such as "workshops" makes it possible to create a more creative and productive educational environment (Paker Kahvecioğlu, 2007: 17). Workshops can be defined as sharing, participatory and free production environments where many disciplines come together. The structural nature of a workshop environment gives a chance to break the hierarchical order of the formal studio environment (Ciravoğlu, 2001: 52). The multidisciplinary environment of an informal education activity is a liberated zone of interaction where production is not limited to architecture. Many areas of feed architecture are made a part of production. In such an informal educational environment, cooperation rather than competition comes to the fore, and it is possible to develop a critical perspective, which is an extremely necessary skill for an architecture student. The main goal of informal education programs is to experience the sharing, collaborative, multi-disciplinary production method required by the practice of architecture. Therefore, it can be assumed that the process itself becomes important rather than the resulting product.

As far as the main intention of informal workshops is to create a liberating discussion and production environment and bring new perspectives to the process, the importance of interdisciplinarity should not be underestimated in structuring the workshop programs. Stokols (2014: 57) states that interdisciplinary studies help the participants achieve a more comprehensive understanding of scientific and community problems when viewed from multiple rather than singular conceptual and methodological perspectives.

Architecture is a multi-disciplinary field where design knowledge can only be obtained with the collaboration of individuals from various expertise. The needs of the community, potentials of the topography, existing cultural heritage, structural issues, concerns about material, form and function should be integrated and evaluated in a holistic manner, for the design to reach its most qualified state. A similar plurality in related matters also exists in the field of archaeology. The curriculum principles established for undergraduate archeology education contain skills and understandings necessary to develop an archeological perspective toward cultural heritage. Black (2001: 105) states that the seven strands of curricular thought recommended include stewardship, knowledge of diverse interests, social relevance, ethics and values, written and oral communication, basic archeological research skills (including excavation and analysis), and real-world problem-solving. Therefore, both disciplines are nourished by each other, especially in design tasks that occur in multi-layered cities, where there are issues concerning both. Such kinds of design problems require teamwork, in which all members contribute to the design process with their expertise. According to Stokols (2014: 59), in interdisciplinary collaborations, team members work jointly, each drawing on his or her discipline-specific perspective, to address a common research problem.

Archaeological excavations in and around cultural assets located within the urban fabric allow the unearthing of the layers of the built environment that remain under the soil. Diversifying remains paves the way for more accurate information about cities' structural and cultural history. This diversity of valuable information has made the concept of a *layered city* a part of everyday life and one of the essential problems of architectural professional practice. The necessity for architects to consider the physical settlement and structure of the historical layers of the city, the concept of *conservation* that emerged with the realization of the importance of physical and cultural layers, and how this texture can be made a part of daily urban life in the design and

implementation processes they will realize in the urban texture has made it obligatory for the methods of approaching layered cities to become a part of architectural education. Interest in layered cities is growing in academic research as well as in professional and practical milieus with questions about how to resolve the tensions between conservation, heritage management, regeneration, and urban expansion (Carvalho et al., 2013: 297), and a growing effort to coexist with archaeological remains without damaging them. Research in this area can be significant as it raises important questions in the field of architecture that are only beginning to be defined.

As in professional practice, layered cities require collaboration between various figures and knowledge from disciplines that differ in teaching and research, especially architecture and archaeology, collaborating in a shared interactional environment. The site's historical, archaeological, cultural, and social values necessitate the active involvement of many disciplines with knowledge in these areas in the decision-making process. In addition, the involvement of the users who demand the design, the local people who will live around this design, and the administrative units that have a say about the city in these processes is of great importance in the permanence of the design product. This crucial requirement for multiple participation makes it vital that the education of architecture and design students and those who will work in these disciplines should include interdisciplinary studies. According to Steiner & Posch (2006: 879), interdisciplinarity provides a holistic view which makes it possible to capture the complex nature of sustainability. Based on this situation, it can be argued that it is extremely essential to create an environment of interdisciplinary interaction in multilayered cities where cultural sustainability is most needed.

The scope of undergraduate and graduate education and the methods used are being restructured to meet the needs of today's professional environment. Accordingly, contemporary vocational education should support group work, multidisciplinary approaches and multidimensional thinking ability. For this reason, conventional education methods are being replaced by educational models that enable interdisciplinary interaction, are enriched by peer learning, and are supported by informal activities where students can learn from each other through concentrated activities. Wood (1999: 374) states that the compartmentalization of professional education at the undergraduate level is undesirable since it militates against collaboration and broader understanding. Also, Stokols (2014: 65) draws attention to contemporary university programs focusing on integration and implementation of various fields of science. Such programs equip undergraduate and graduate students with skills such as multiple systems thinking, participatory methods and knowledge management strategies.

METHOD

Within the scope of this study, which aims to disseminate informal and interdisciplinary studies in design education and to examine their results, following a literature review, a workshop, which is a common application method of informal education, designed within this framework as a case study is examined in all its aspects and the findings of it are presented. This workshop aims to produce solution alternatives for a real design problem in an archaeological excavation site with the collaboration of undergraduate and graduate students studying architecture and archaeology. A qualitative research methodology is constructed for this case study. In order to evaluate the findings of the case study; observations, face to face interviews with the participants, qualitative analysis of the outputs of the design workshop and the discussions at the final colloquium are used.

Within the scope of the article, firstly, a literature review on the history of Gölyazı, which has archaeological and historical importance, and which is also the location and the subject of the case study, is included. The important features of interdisciplinary informal design education are examined in order to reveal the theoretical foundations of the workshop. The field study is analyzed in detail under the headings of conceptual framework, goals and objectives, quantitative and qualitative characteristics of the participants, process and outputs. Finally, both the final projects developed by participant groups in order to solve a design problem existing on the site and the development process of these projects, the effects of multidisciplinary informal design education on students' professional and social development are evaluated through the results of the workshop.

"Light-Weight Structural Additions for Layered Urban Textures – Volume:1" Workshop

The Light-Weight Structural Additions for Layered Urban Textures – Volume 1: Gölyazı workshop, which is described within the scope of this study, is designed as an interdisciplinary educational experience in which architecture and archaeology students, under the consultancy of architects and archaeologists, produce a design product that is intended to be realized in a layered urban texture by considering the needs of its potential users and urban dynamics. The participants also visualized their designs using various presentation methods and presented the final product to their colleagues, local people, and local administration. It is thought that this workshop, which is carried out in direct experience with the archaeological site, provides a small cross-section of the professional working environment in which they will take part in the future and teaches students who are undergoing training in different disciplines to understand the historical texture in its context, to respect each other's professional knowledge and ideas, and to produce a common product as a team in a limited time. The main purpose of this design experience is to increase the quality of vocational education by using the advantages of the informal education environment and contribute to the establishment of an interdisciplinary interaction environment.

Conceptual Framework

In the Gölyazı Workshop, which is the first volume of a series, the intention was to design lightweight structural additions that will provide thermal and luminous comfort for the different needs of all users (visitors and excavation team) in the existing archaeological excavation areas (theatre and the Temple of Demeter), define the pedestrian flow and working areas, and do not harm the archaeological remains. In addition, it was expected to design a lightweight structural system consisting of local and regional extensions with a holistic design grammar that will establish a relationship with these two archaeological sites within the urban fabric, guide the visitors, and meet the users' needs within the urban fabric. The structure was expected to be designed according to the requirements that were given at the beginning of the design process. Some of the desired properties of the structure to be designed were as follows:

- Prioritizing the use of local and natural materials
- Being compatible with local identity and existing texture
- Being easy to build and having a lightweight structure
- Providing multifunctional spatial solutions
- Having the potential to be derived, reproduced, and adapted to new needs that may occur over time
- Being compatible with a biomimetic design approach
- Having a self-sufficient system that can generate energy if needed.

Goals and Objectives

The workshop schedule was designed with the aim of providing participants with some professional and personal gains. The primary intention of this workshop is:

- To explore the potential of short-term informal exercises
- To explore the advantages of interdisciplinary hands-on exercises in vocational education
- To develop students' inclination to teamwork
- To ensure that the effect of cooperation and participation in the design processes is comprehended
- To identify a design problem in a short and specific time frame and develop a solution proposal for it
- To ensure the perception of multi-layered urban textures and their needs
- To reveal the interaction of social, cultural, and local elements with technical competencies, topography, and spatial perception
- To offer an exercise opportunity where students from different disciplines can use the theoretical knowledge that they have acquired through conventional education in the context of their disciplines in solving real-life problems
- To encourage using different representational tools to present the created design solution.

Participants

The workshop was open to 3rd and 4th-year undergraduate and graduate students of the Departments of Architecture and Archaeology. Students who wanted to participate made their applications online by providing their portfolios and CVs. As a result of the evaluation, thirty-three students, nineteen from the Department of Architecture and fourteen from the Department of Archaeology participated in the workshop. Twenty-three of them were undergraduates, and ten of them were graduate students.

A total number of five teams were formed among the workshop participants. The teams were composed of six to eight students. While forming the groups, attention was paid to include students from the Department of Architecture and the Department of Archaeology in each group and create a balanced distribution of undergraduate and graduate students to the groups. Such a group structure makes it possible to benefit from the competence of the participants at the maximum level and to use the advantages brought by the diversity of perspectives.

Process

Following the participants' determination, the workshop schedule, which lasted for five days, was put into practice. The first day of the program was held online, and the remaining four days were held face-to-face in Gölyazı, on the site and at Gölyazı Culture House (St. Panteleimon Church) allocated by the local government as the workshop space. All the activities in the schedule were designed as a part of a holistic process, therefore participation in all events was obligatory. The stages workshop schedule was grouped under three main headings; pre-design, design development, and design evaluation (Figure 4).

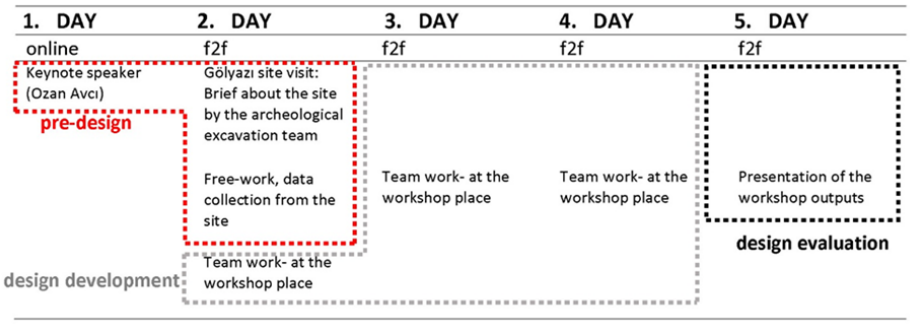

Figure 4. Workshop process chart

The first day of the workshop was held as an introductory meeting online. At the meeting, where all the participants came together after the workshop participants introduced themselves, information was given about the objectives, the scope of the work to be carried out, and how the process would work. The keynote speaker of the opening session was Assist. Prof. Dr. Ozan Avcı. He made a presentation on *Design Build Studios* that he executed and answered the questions of the participants. The presentation was very inspirational for the participants due to its scale and similarities with the design approach planned to be realized within the scope of the workshop in terms of developing site-specific solutions for a design need of daily life.

On the second day, the workshop was continued in Gölyazı, which also formed the theme of this volume. Following the arrival to Gölyazı, a site visit was made in order to get to know the environment and to see the design problems that were put forward and to be solved. During this site visit, Prof. Dr. Derya Şahin, the leader of the archaeological excavations in Gölyazı, gave information to the participants about the temple of Demeter, the ancient theatre, and the archaeological layers that penetrated the urban fabric. Afterward, the teams had the opportunity to observe the city, interview the locals, and examine the urban texture on-site by creating their routes within their given free time.

The pre-design phase, in which the stages of defining the design problem and collecting data were carried out, was completed at the end of the first half of the second day, and the design development process started. In the design development phase, which started in the second half of the second day and was completed at the end of the fourth day, the teams gathered in their working spots in the workshop space (Figure 5), where they could

produce together. During the design process, a method was followed in which the in-group design discussions continued, and the solution proposals were visualized by using different representational tools (models, sketches, mapping, CAD drawings, etc.). Regarding the workshop space in the city center, it was possible to collect data by revisiting the site quickly when necessary. In addition, the fact that the groups consisted of participants from different disciplines enriched the design discussions and ensured that different perspectives were reflected in the design solutions.

Figure 5. Design development phase

Participants carried out literature review through digital research and by examination of the printed sources brought to the workshop place from the excavation house and the Municipality Library; they used different representational methods to reveal the final products by using the materials (maps, modelling & drawing equipment, and tools) in the workshop space and their personal computers (Figure 6).

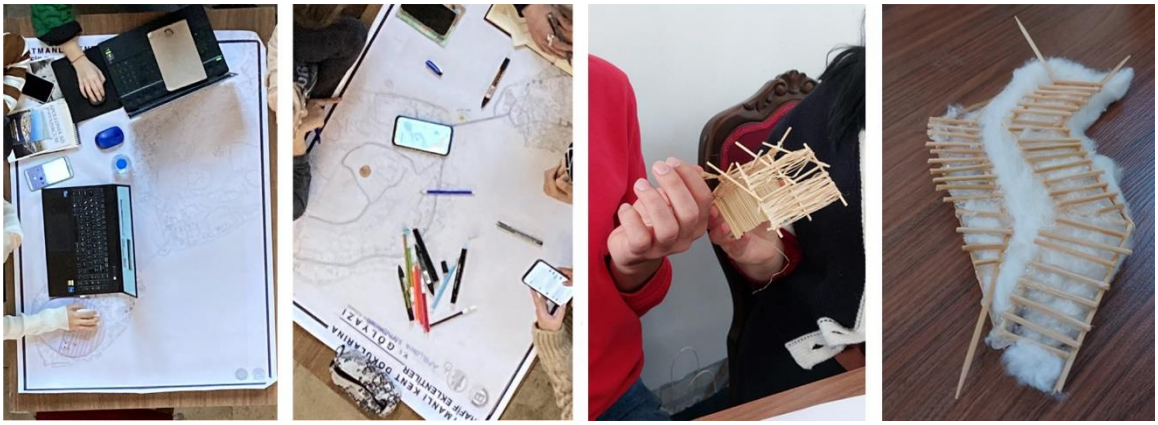

Figure 6. Representational tools used in design development

In the design evaluation phase, which is the last stage of the workshop, on the last day, the teams presented their design proposals to the audience consisting of the residents, local authorities, representatives of the Municipality, and faculty members from the Departments of Architecture and Archaeology (Figure 7). It was possible to evaluate the design solutions from different perspectives, to reveal the pros and cons of each design, and to discuss the possible contributions of these solution proposals to the city in the colloquium, where the questions from the audience were answered, and the teams commented on each other's work. This multi-voiced discussion environment allowed participants to examine and interpret solution proposals developed by different teams for the same design problem. It also enabled them to listen to and respond to criticisms about their own designs. Such forum environments create a democratic discussion environment and enable brainstorming to improve the quality of the design suggestions presented. Participants have the chance to express their ideas verbally. Therefore, it can be said that the colloquium held at the final stage of the workshop contributed to the destruction of hierarchy and to the creation of a libertarian environment that enables the

participant to gain self-confidence which are the main achievements of informal education. The colloquium environment also ensured the continuity of the design process with new ideas put forward.

Figure 7. Design evaluation phase – colloquium

FINDINGS: OUTPUTS OF THE WORKSHOP

As a result of the workshop, each team developed design proposals that would meet the spatial needs of the residents of the city, the team members working in the archaeological excavation sites, and the visitors coming for touristic purposes, and that would harmonize with the multi-layered texture and local characteristics of the city, to solve the problems they identified. The solution proposals developed by the teams were created with an interdisciplinary approach with the contribution of students from different majors. The design proposal of Team-1 aimed to bring together the archaeological excavation sites, historical texture, and existing sightseeing points in Gölyazı on a route and to enable visitors to encounter the local culture owing to the circulation scheme created. For this purpose, a circular route consisting of eleven stops in total was created, and an architectural design of a structure was suggested for each of them. The context of each structure was based on the requirements of the location and function. The motto of this proposal was to use natural building materials (Figure 8).

Figure 8. Design proposal of Team-1

Team-2 developed a design proposal on two routes, consisting of two primary and six sub-focal points. While doing this, they determined the spatial needs by conducting interviews with the local people and designed solutions using local materials and techniques. The design of the structures aimed to use the reeds grown by the lake as a building material using the reed knitting method, which is a local construction technique, and to use the biomimetic design approach, in which the flexible shell structure of the crayfish, which is a local aquatic creature, is accepted as the source of inspiration in generating the morphology of the structure (Figure 9).

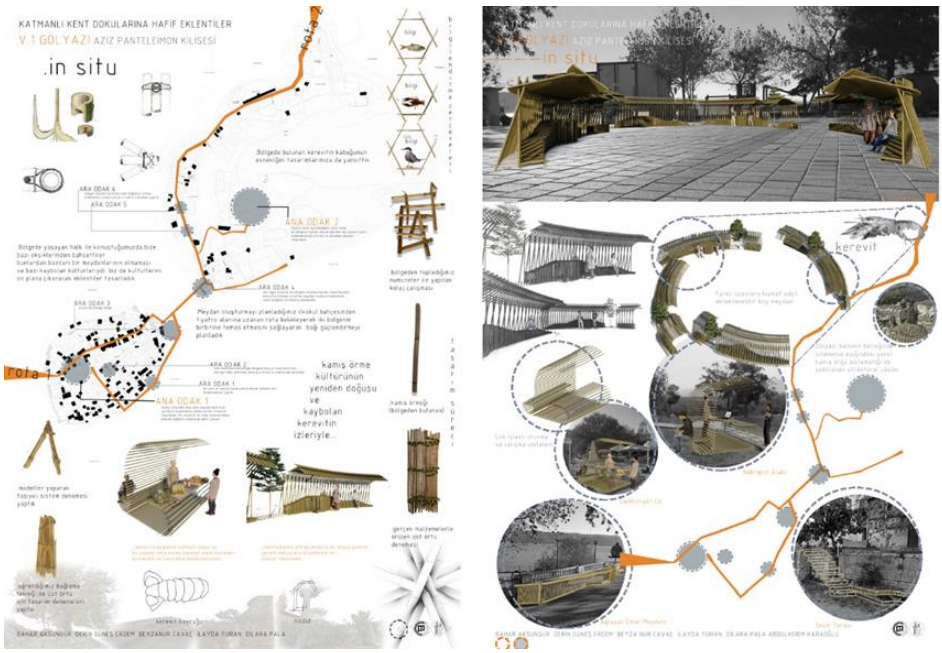

Figure 9. Design proposal of Team-2

Team-3 determined seven prominent points among the region's archaeological and natural protected areas and proposed a route that connects these points. For each stop on the route, small wooden structures were offered. It is aimed that these structures create a unified design grammar by the usage of a common material and contribute to the visitors' holistic perception of the urban fabric (Figure 10).

Figure 10. Design proposal of Team-3

Team-4 generated a pedestrian route consisting of a total number of fifteen stops. On this route, there are historical and archaeological sites, observation points where natural texture, flora and fauna can be examined, and sales units where local products can be bought. The design proposal that aims to enable visitors to experience the multi-layered city with all its qualities also offers a modular and lightweight structural addition for each stop, where the walking stint between each other is also determined (Figure 11).

Figure 11. Design proposal of Team-4

Team-5 developed a linear route proposal highlighting the archaeological sites in Gölyazı. The five stops on the route aim for the visitors to perceive the ancient layers of the city holistically. For this purpose, modular seating units and canopies have been designed so visitors can rest at the stops and be protected from variable climatic conditions. In addition, structural traces called “route connectors” have been created so that visitors can perceive the route holistically and quickly follow the route. In addition, it is proposed to generate a virtual observation environment using VR technology so that visitors can experience ancient life and architectural texture in 3D at archaeological sites. Also, the spatial needs of this experience (info desk, reception area, etc.) are offered to be generated with modular design elements (Figure 12).

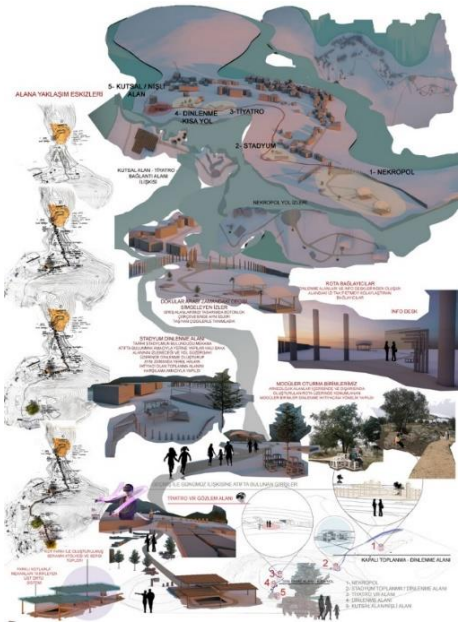

Figure 12. Design proposal of Team-5

Each of the solution proposals generated by the teams has unique characteristics. At the colloquium held at the end of the workshop, each proposal's positive and negative aspects were opened up for discussion. It is observed that a route proposal that will serve the holistic perception of the city has been offered in all the proposals.

In the proposal of Team-1, the effort to create a holistic design language in the structural additions placed on the route that surrounds the city; In the proposal of Team-2, the preference for local materials and construction techniques in the design proposal and the succession of transferring the biomimetic design concept to the proposal by deriving it from a local aquatic creature; In the proposal of Team-3, making the layers of different historical periods visible by the created route stops; In the proposal of Team-4, the creation of a holistic route where the archaeological, historical, cultural and natural structure of the city can be observed together and presentation of spatial suggestions that will contribute to the local economy; In the proposal of Team-5, the creation of an environment that will allow the ancient texture to be experienced differently by using virtual technologies were found to be the positive aspects.

At the end of the colloquium, a consensus was reached that implementing a design proposal, which will be created by integrating the striking elements in each proposal with a holistic design grammar, will contribute to the city. A design that will be developed in this direction and proposed to be applied on-site will ensure that:

- the city is perceived holistically
- the city's ancient, historical, cultural, and natural qualities are emphasized
- it becomes an even more prominent attraction for visitors
- the spatial needs of all target groups (local people, archaeological excavation team, touristic visitors) are solved in a qualified way.

CONCLUSION

Gölyazı workshop, the first volume of the *Light-Weight Structural Additions for Layered Urban Textures* workshop series, presented a design problem that allowed the students to realize an informal exercise besides their formal education, supporting their vocational training. The fact that the working groups were composed of architecture and archaeology students and the people who attended the colloquium at the evaluation phase included architects, archaeologists, residents, and local authorities, created a stimulating, competitive environment for both students and instructors. The multidisciplinary nature of the defined study process and the teamwork of different opinions within a limited period allowed them to have professional experience before completing their formal education process and to realize the fields that they needed to improve themselves.

The workshop's working area is an existing residential area including rural, urban, and archaeological layers, once again emphasizing the region's importance. Spatial design solutions, produced with academic knowledge and emphasizing the region's topographic, historical, and cultural values, also offer an alternative for the local government to develop service strategies for the area. The resulting products also have the quality to contribute to enhancing the region's cultural tourism potential.

Within the scope of this workshop, the students had the opportunity to work in a layered urban fabric that they will encounter frequently in their professional lives. This experience showed them that the visible built environment is not the only actor in an urban design problem; The invisible layers of the city are also parts of the problem and sometimes parts of the solution. The students also realized that an architectural or industrial design should respond to more than just meeting the needs of one group. They realized that in their search for the answer, they had to consider several factors such as human experience, urban identity, the needs of the local community, topography, materials, traditional building construction technologies, flora and fauna.

The multidisciplinary working environment defined by the workshop constitutes a small-scale simulation of the interdisciplinary working and design environment that the students will be involved in when they graduate. This simulation is of great value in giving an idea of what kind of vocational milieu they will be a part of and preparing them for professional life.

With the practice realized in the workshop, architecture students were part of a complex creative problem-solving process in a limited time. They have seen the professional approaches of different disciplines and different ways of thinking about the same problem in a design process where other actors should be involved. They learned how to respect and transform different ideas into a common design. Archaeology students, on the other hand, saw the relationship between the remains they uncovered and the visible layers of the city and how meaningful this relationship is. They experienced how the spatial and climatic needs they heard during the excavations could be brought together and transformed into a common solution and how the product can be transformed into a product that responds to different needs within the urban fabric.

To represent the product they designed, the students used two-dimensional drawings, three-dimensional models, printed tools such as photographs and maps, and models of the structures created using local materials and traditional building techniques. They supported all these visual products with music, their body language, and how they dressed. In this way, they experienced the use of various representational tools prepared as a result of collaborative work.

The workshop process was finalized by a colloquium realized with the existence of the residents, local authorities, representatives of the Municipality, and faculty members from the Departments of Architecture and Archaeology. All proposals were discussed with the contribution of all stakeholders of the built environment. As a result of this debate, the final product of the workshop is decided to be formed by integrating the striking elements in each proposal with holistic design grammar and considering the opinions of city residents and local authorities. This situation enabled the students to realize the importance of participatory process and common-sense in-built environment design.

The goals of this workshop were stated to be:

- creating a design experience environment that explores the advantages of interdisciplinary teamwork
- motivating cooperative and participatory design
- supporting short term, creative design challenge
- enlightening the concept of multi-layered textures and their needs
- revealing the interaction of social, cultural, and local elements with technical competencies, topography, and spatial perception
- encouraging using different representational tools.

Considering the findings mentioned above, it can be affirmed that Gölyazı Workshop, the first volume of the *Light-Weight Structural Additions for Layered Urban Textures* workshop series, achieved its goals. The follow-up volumes of this workshop series will be planned to continue with different design problems for archaeological settlements in layered urban textures and will be opened to national application in the process. The involvement of students from various universities will contribute to the diversity of the working environment and allow different perspectives to be discussed. In this way, participants will have the opportunity to observe and even participate in the solution proposals and production processes that different schools bring to the same design problem. Thus, this workshop series, designed as an informal educational event, will more effectively achieve its goals by allowing participants to experiment with the methods they encounter in conventional curricula. Additionally, bringing the designated regions into an academic discussion environment will contribute to providing spatial solution proposals to preserve their place in urban memory and maintain their existence in a qualified manner for these multi-layered urban textures.

Authors' Contributions

Within the scope of the workshop, Sebla Arın Ensarioğlu and Gözde Kırlı Özer undertook the tasks of designing the study, selection of participants, consultancy during the workshops, and jury membership at the end of the workshop. Gonca Gülsefa and Derya Şahin were responsible for introducing the historical city and serving as jury members at the end of the workshop.

In the article Sebla Arın Ensarioğlu was responsible for the narration of the case study (the workshop), the data analysis of the outputs of the workshop; Gözde Kırlı Özer was responsible from the literature review of informal education and

the conclusion of the paper; Gonca Gülsefa and Derya Şahin was responsible for the introduction of the location, archeological importance and history of the workshop site.

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Competing Interests

There is no potential conflict of interest.

Ethics Committee Declaration

This study doesn't require ethics committee approval.

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Figure References

Figure 1-2: Culture Inventory. (n.d.). *Engraving of the city of Apollonia.* Kültür Envanteri. https://kulturenvanteri.com/en/yer/apollonia-ad-rhyndacum/#17.1/40.170448/28.683897 (14.04.2024).

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Figure 3: Google Maps (n.d.). *Airview of Gölyazı in 2024.* https://www.google.com/maps/@40.1693791,28.6824823,1427m/data=!3m1!1e3?hl=tr-TR&entry=ttu&g_ep=EgoyMDI0MTAwOC4wIKXMDSoASAFQAw%3D%3D (11.10.2024).

Authors' Biography

Sebla Arın Ensarioğlu graduated from Istanbul Technical University, Faculty of Architecture, Department of Architecture in 2001. She completed her M.Sc. in 2003, and PhD in 2015 at ITU Graduate School of Natural and Applied Sciences, Architectural Design Program. Sebla Arın Ensarioğlu, who has been working as a professional architect since 2004 and as an academic at different universities since 2012, is currently working as an Associate Professor at Uludağ University Faculty of Architecture. Her research interests include architectural design, design education, participatory architecture, children and architecture, body and space theory, universal design, basic design, interaction of arts and architecture.

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Derya Şahin received her bachelor's degree in Archaeology from Selçuk University and her master's and doctorate degrees in Classical Archaeology from the same university. She works at Bursa Uludağ University, Department of Archaeology, Chair of Medieval Archaeology. In 2003, she studied at the Archaeological Institute of the Rheinische Friedrich-Wilhelms-Universität Bonn University with a DAAD scholarship. Şahin works in many interdisciplinary fields, especially in Classical and Medieval archaeology, and has publications in mosaics and iconography. With permission from the Ministry of Culture, she is the head of the excavations at Apollonia ad Rhyndacum and carries out excavations and research with her team.

Gonca Gülsefa received her bachelor's degree in 2012, master's degree in 2015 and doctorate degree in 2023, in the field of Archeology from Bursa Uludağ University. She has been working as a research assistant at Bursa Uludağ University, Department of Archaeology, Chair of Classical Archaeology since 2014. Gülsefa works in the field of classical archaeology and has publications in the fields of ceramics and coins. She is a team member in the excavations of Apollonia ad Rhyndacum, where she is the deputy excavation leader with permission from the Ministry of Culture.