Designing an archaeology centre for students

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Abstract

This paper is about the interdisciplinary approach to the interior architecture studio education. The second year Interior Architecture and Environmental Design at the Faculty of Fine Arts and Design at the Izmir University of Economics, Izmir, Turkey, was given the task of designing a modular living unit for archaeology students. The brief expected the design of a living unit for students out of two- and three-dimensional modules. There were three aims of the project: first, the advantages of the process being interdisciplinary and collaborative working closely with the archaeology centre; second, the role of modularity introduced at the interior scale; and third, the structure of the semester enabling an understanding of the interior architecture process, delivered at the second year level. In the paper, the means by which the aims are fulfilled will be discussed with examples from students' projects, and furthermore, directions for research are discussed with an emphasis on design thinking.

Keywords**:** Interior architecture education, design education, design process, design thinking, archaeology.

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1. Introduction

This paper is about the interdisciplinary approach to the interior architecture studio education. The second year Interior Architecture and Environmental Design (IAED) at the Faculty of Fine Arts and Design (FFAD) at the Izmir University of Economics (IUE), Izmir, Turkey, was given the task of designing a modular living unit for archaeology students (Acici & Kulak, 2015; Demirel, 2019). The IAED students were expected to design a living unit for students out of two- and three-dimensional modules. The scope was defined as a space, in which the units of ten students can live and work and which includes working, resting, eating and wet allocation spaces. The living unit will include socialisation spaces such as kitchen, library and study spaces for students. The students were expected to define the module(s), two-dimensional group made up of the module, three-dimensional group made up of the modules and groups that will make up the space. The living unit space was the Yesilova Mound Visitor Center (Yesilova Hoyugu Ziyaretci Merkezi) building in Bornova, Izmir, built next to an 8500-year-old excavation site, and the modules were designed within this space. Students needed to create an identity for the space that would come from building a strong concept.

A concept was defined as the idea that drives a design process from beginning until the very end, brings everything under one 'roof' and helps in making decisions at any scale, from the spatial decisions to the smallest detail (Al Hashimi, Mahdi, Al Muwali & Zaki, 2019). For the project, the students were advised to define the student profile, and how they will utilise the space early on in the project. Within this context, students were expected to do research on various small-scale living units, hostels and dormitories all over the world, nature and their surrounding for inspirations developing into the concept, a variety of archaeology centres, research and excavation centres, museums, the city, the close surrounding to the building and their characteristics. Students were also expected to analyse the existing building and its entrance area (design principles, architectural structure and spatial quality) and present the interpretation of the space fully with models, photographs, sketches, inspiration and concept boards, research, material choices and specifications, details and a full detailed and rendered drawing set in the required scales. Moreover, students responded to the following program requirements, which were to design resting–meeting areas, specialised areas, entry area/security, library, storage for personal belongings and utilities and other specific needs according to each student's specific scenario. The semester was divided into five, and the phases were defined as concept development, spatial development, technical drawings and model, detailing and three-dimensional representation and finalisation. The special focus of this studio was on defining design and interior architecture, scenarios, concepts, defining a user profile, choosing and presenting materials, material connections and detailing and universal design. Students received a critique each studio day, and two instructors evaluated each stage.

There were three key aims of the project: first, the advantages of the process being interdisciplinary and collaborative working closely with the archaeology centre; second, the role of modularity that was introduced at the interior scale and, third, the structure of the semester enabling an understanding of the interior architecture process, delivered at the second year level. At the end of the semester, projects showed that all the aims of the project were successful. In this paper, the means by which the aims are fulfilled will be discussed with examples from students' projects, and furthermore, the directions for research are discussed. Collaboration at the beginning of the semester with professors and students of Chiba University in Japan brought an additional value and originality to the project. A group of 10 students and their professor took part in the project in the first conceptual phase for 1 week, where they collaborated with Turkish students and presented quick group conceptual solutions to the whole studio. The multicultural and interdisciplinary nature of the project enabled awareness and full comprehension of various approaches to design, which led to original design solutions. The additional expectation was to approach the design in a modular format, which is always helpful, especially in the initial years of design education, both in the second and third dimensions. Modularity provides structure and ease in applying the design concept in the given space and is a practical tool and skill to be developed extending to professional life. In general, in interior architecture, modularity

is attained when modules, or units, are assembled in a way that creates several distinct modular structures (Makovicky, 1989). Modules assume different grades of separateness, specificity and transferability based on the peculiarity of the module and their way to interact with the system (Lau, Yam & Tang, 2007). Baldwin and Clark (2000) claimed that some modules are 'hidden', which means that design decisions on those units are independent from the others, and some are 'visible'. The visible modules are comprised of 'design rules', where the hidden modules are subordinated if it is the part of the same system. Modules can be separated and recombined, and this enables the possibility of obtaining flexible solutions and variety in use and scale (Baldwin & Clark, 2000; Jacobs, Vicery & Droge, 2007; Leseure et al., 2010). When a space is designed with a modular approach, the elements are designed and organised according to the overarching design idea (Baldwin & Clark, 2000). In this study, the students first considered the structure of the building and its characteristics for the initial design and, based on their own concept and scenario, defined a module for their project. The approach has enhanced the creative solutions and has given to the students an additional tool to transfer an abstract idea into a consistent spatial organisation.

The design being a creative problem-solving activity necessitates flexible and adaptable way of decision-making (Eisentraut, 1999; Lubart, 2001), which is expected to be similar to solving other problems in life. The creative problem-solving process and its experience are thus critical for reaching creative results (Akin and Akin, 1998; Akin, 1984; Kokotovich & Purcell, 2000; Lubart, 2001). The creativity is driven by original connections between fields and cultures, new modes and techniques (Hasirci & Demirkan, 2003; Hasirci & Demirkan, 2007), and the approach to design in both students and instructors, peer-to-peer interaction, student-centric learning, technical and theoretical knowledge, design skills and self-confidence is increased with cross-cultural exchanges (Ozkan & Mutdogan, 2018; Tasli-Pektas, Aybar, Savut & McKinnon, 2015). The student projects that combine the technical and social aspects contribute positively to students' education (Bruno, 2017; Kim, Ju & Lee, 2015). Moreover, understanding social relations and diverse values and how they reflect on design strengthen thee design education by exposing students to the richness of other cultures (Bonenberg, 2016; Dorst & Cross, 2001; Hadjiyanni, 2006). In this case, designs that showed a preliminary but careful understanding of both design and archaeology reflected the most functional and creative results. The social connections established a focus on human-centred design, and the benefits of interdisciplinary approaches have led to fruitful results and are expected to have long-lasting effects on the students (Talug, 2018; Martin-Jaime et al., 2019).

The significance of creative problem-solving undeniably also relates to design thinking. The design thinking can be defined as an analytic and creative process engaging a person in a natural human activity, receiving increasing attention each day in a variety of fields (Cross, 2001; Razzouk & Shute, 2012; Wylant, 2008). Cross (2001) stated the importance of research on design students and professionals and mentioned its inevitable connections in general education (Allison, 2006). During design activity, one does not simply be inspired by an idea and solve the problem but goes through a step-by-step problem-solving process which can also be traced back. The importance of defining this process enables the act of learning and repeating it, as a tool that can be applied to other design activities, which will manifest itself in professional projects as well. The attainability of design thinking needs to be an emphasised feature of the design studio curriculum. Thus, design education needs to reflect the significance of design thinking alongside any design project given to students during their education and enable the students to gain awareness and learn to adopt the stages of the process to their projects (Afshar & Terwiel, 2019).

2. Method

The students were expected to consider the following issues when writing their scenarios: understanding the function of the living unit, creation of an identity, scenario (according to the user profile), whole volumetric space, surfaces including the floor, the walls, the ceiling (new boundaries can be defined by your proposal), planning and programming, connections between spaces, furniture,

lighting (artificial lighting and daylight), materials and textures, colour, HVAC, plumbing, acoustics, connection details, consideration of privacy issues (visual, audial and other), exterior–interior connection and planting solutions, approach to the building and facade expression/ characterisation, artwork and wayfinding circulation (Talug, 2018).

The evaluation criteria depended on the depth of analysis and research on the concept and development of module(s); success in the use of design principles and spatial knowledge and innovation, functionality, feasibility, aesthetic values and presentation. The students were also expected to check the syllabus for the important dates and asked to come to each class with their revised proposals and homework. The semester phases and overall weight were considered as (1) concept development: concept, mood board and scenario: 20% (weeks: 1–2–3); (2) spatial development: layout of the whole building (1/200); (3) design for the unit (1/50) and bubble diagrams: volume 3D, sketching plans and sections: 20% (weeks: 4–5–6); (4) technical drawings and model: plans, sections, elevations and model: 20% (weeks: 7–8–9); (5) detailing and 3D representation: material, furniture and lighting: 20% (weeks: 10–11–12); and (6) finalisation: 20% (weeks: 13–14–15).

3. Results

Out of 48 projects, six are chosen in this paper as examples of different approaches to the design problem (Figures 1–6). The first project had the concept of a time spiral, stating that time moves from the past to the present as a spiral. Furthermore, the project had the idea of having the principle of linearity during the design process. This continuity derived from the link between the ancient times and today, established the main idea of the project. The scenario was based on these approaches regarding the existing volumetric space. The student shaped his interiors focusing on this idea and turning the spiral into an angular and continuous connectivity of spaces. The second project focused on the discovery path, which led to the formation of linear solutions within the space. The student had the concept of connection with pieces supporting the idea of discovery. The angular and linear spaces that were formed led to the creative spatial arrangements and layouts within the interior that also protruded to the exterior. The concept of the third project was reflection that was based on the idea that the past reflects the present and vice versa. Thus, the variations of reflections and repetitions were formed in the interior space to highlight this concept. The fourth project focused on the fact that archaeologists discover new artefacts and complete the pieces of a story like a puzzle. Therefore, the spaces created were based on this idea, using angular shapes and creating an angular unity. The use of repetitive elements contributed to the balance in the concept. The student with the fifth project drew inspiration from interlocking and combined and attached L-shaped spaces to one another, forming overlapping spaces that led to one another. The space variations supporting the concept created the general design approach of the project. The sixth project was created from the beehive idea, stating that communities have always lived together in order and harmony like bees. The conceptual idea led to the spaces taking hexagonal forms for the students to undertake a variety of activities in them. All students showed a great creativity from the initial research and concept formation stages to the final technical execution and model making stage, as well as a human-centred approach that focused on social relations of the prospective users and awareness on design thinking.

Figure 1. Berk ondul: time spiral

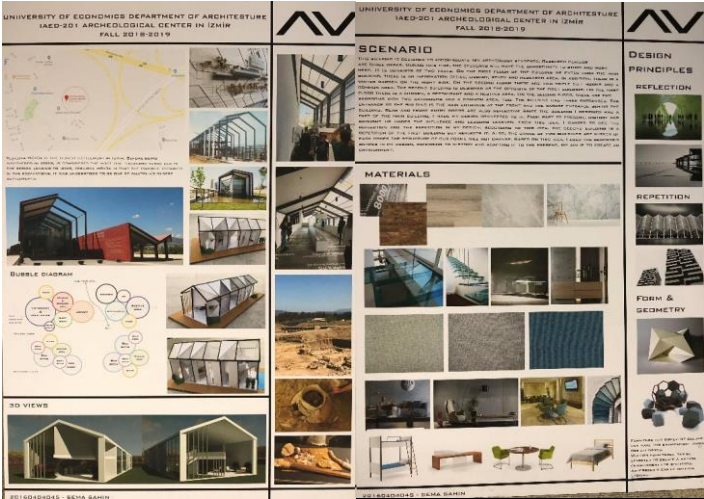**Figure 2. Nuri koparan: the discovery**

Figure 3. Sema sahin: reflection in time

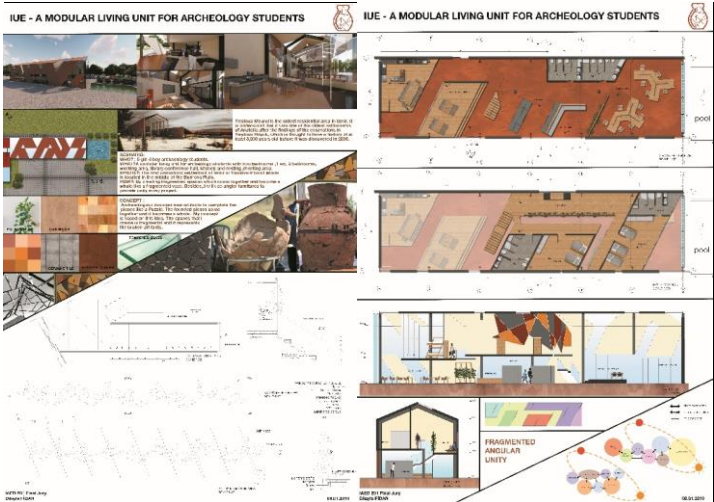Figure 4. Dilayla fidan: fragmented puzzle
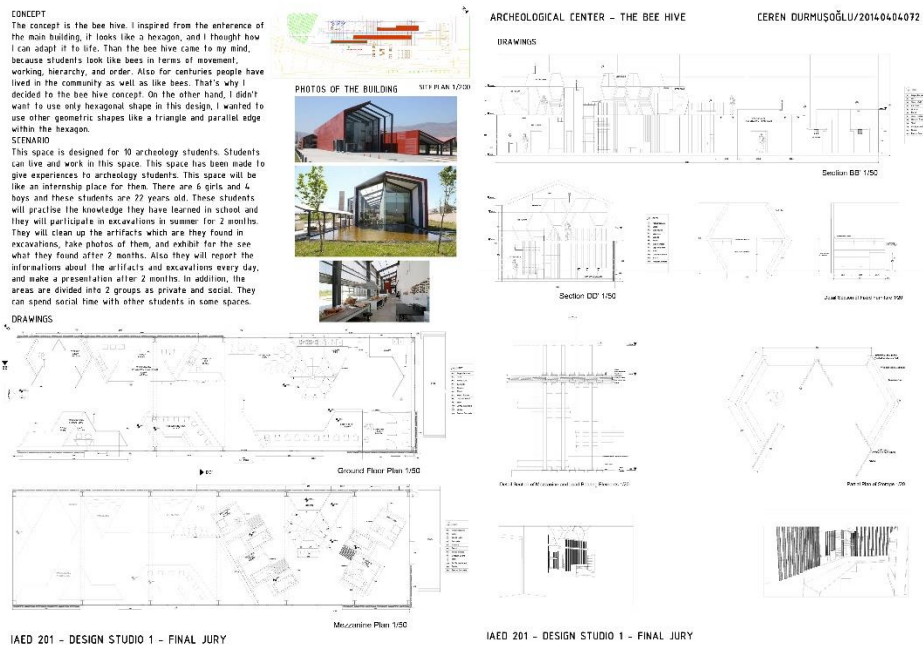
Figure 5. Galip emre: interlocking spaces

Figure 6. Ceren durmusoglu: beehive

4. Conclusion

The final jury showed a range of spatial solutions from the more conceptual to the practical approaches. All students in the studio gained an awareness interdisciplinary and multicultural approaches and design thinking as a tool. Learning about design thinking is expected to provide a base

to be applied to any educational or professional design problem that the students may come across. Students' learning about the design as a step-by-step problem-solving activity has changed their view of design as well, where they regarded more as an inspiration before this studio. It was clear that there was a need to emphasise design thinking as a tool and include it in the educational curriculum.

Moreover, students learned about the field of archaeology and how it works, methods of conducting research, the modular approach, how to form a concept and to apply it in spatial format and, overall, a human-centred approach to interior architecture, which is the focus of the second year (Figure 7). The final jury was organised in an exhibition format with jury members from the archaeology centre and the design profession. The selected projects were also exhibited at the actual building site, and both students and instructors received awards from the Bornova Municipality in Izmir during the 'Ideas for Bornova' exhibition.

The three key aims of the project were fulfilled in all projects. First, the advantages of the process being interdisciplinary and collaborative working closely with the archaeology centre were quite obvious. Second, the role of modularity that was introduced at the interior scale was useful both at the conceptual and the functional stages. Third, the students comprehended the structure of the semester reflecting the interior architecture process as a skill to be carried to upper years in their education. In summary, this study brought to light the variations in students' approaches to the second year interior architecture design brief. The cross-cultural and interdisciplinary approaches led to fruitful results in terms of originality and fluency of the concept-formation process. Human-centred approaches in interior architecture that focus on social relations were significant in this study, and this emphasis was obvious in the projects. Modularity has helped students from the initial idea formation until the end of the design process in the practical and functional aspects, such as layout and organisation of the space. Further research may include the follow-up studies with the same students and the comparisons between different years and programs that focus on the creative design thinking process. The experience and results are expected to be beneficial for the students on various levels, as well as in the long run, having implications for further collaborative practice-based research.
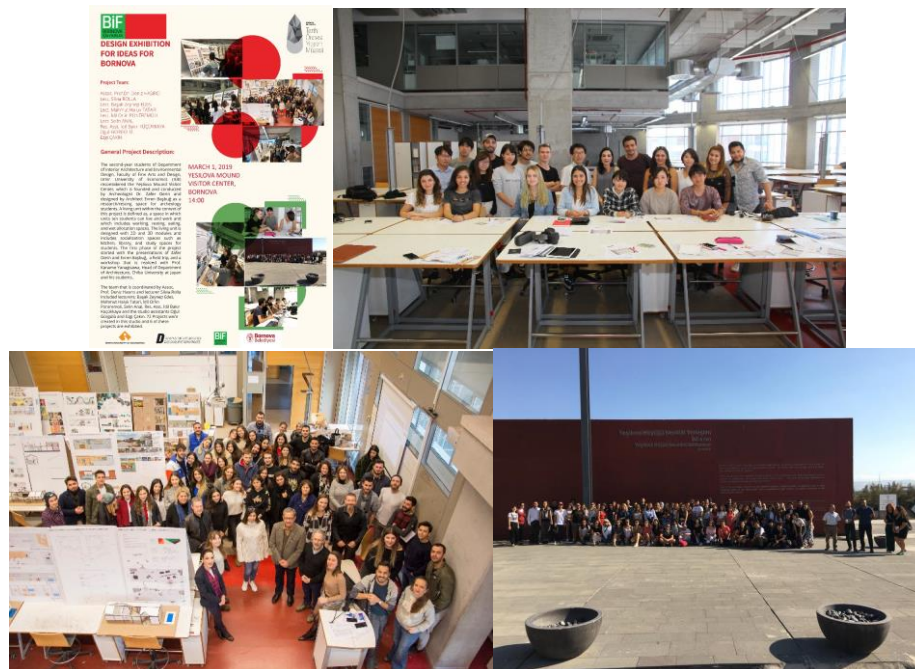

Figure 7. Visuals from the semester-long process

Acknowledgements

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