Educational Venue from Design to Implementation Process; A Project by Faculty of Fine Arts, Selçuk University

Mine Sungur¹,a, Ibrahim Bakır²,b

¹Selçuk University, Faculty of Architecture and Design, Department of Interior Architecture, 42250, Konya, Türkiye  
²Akdeniz University, Faculty of Architecture, Department of Architecture, 07058, Antalya, Türkiye  
*Corresponding author

A B S T R A C T

Throughout history, there has been a reciprocal relationship between humans and space. Even though there are numerous spaces covered by this ongoing relationship process, it has integrated and gained value with educational venues. Mainly because they closely monitor social, cultural, technological, and economic developments and pass on knowledge to future generations, educational spaces play a crucial role in the development of individuals as well as society. It is feasible to conclude from research on educational spaces that the physical environment has a major positive or negative impact on education. To solve the issue that the current Faculty of Fine Arts at Selçuk University could not sufficiently respond to user needs physically, it was decided to construct a new Faculty of Fine Arts building. The primary goal of the study is to design the building using user-oriented techniques that promote social interaction and showcase artistic identity throughout the design phase. A qualitative research approach, based on inspection and observations, was used in the study to gather data, documents, and reports on the topic and to ensure that the architectural programming stages advanced correctly and received ongoing feedback. Studies have confirmed the results, which show that artistic education in structures that provide users with distinct experiences is different from that provided in faculty buildings with a type plan scheme. The process, which involves collaboration between stakeholders from various disciplines and necessitates coordination, is also maintained in a coordinated fashion as a consequence of the study. Because of this, it is believed that buildings with comparable features can offer direction by offering a set of data that may also be reliable for design procedures that are prearranged.

Introduction

Design is a methodically constructed phenomenon that is broadly defined as the art of problem-solving and involves a creation process at its core. In architectural design, the problem area or all of the data combined defines the form, and all of the problems the designer must solve to make the project’s content (Bilir, 2013). It is impossible to foresee beforehand what the project's contents, design outputs, and effects on the final product will be, even though rationally planned design processes are necessary to expect the best possible outcome. Though the phases of the process are generally agreed upon, it should be assumed that each situation will present a different process depending on the nature of the problem or how it is expressed, as well as the preferences, ideas, opinions, and experiences of the designer (Osmanoglu, 2022).

University buildings serve as significant social and cultural places in addition to being educational establishments. These spaces are crucial for social interaction between instructors and employees because they are where students from diverse cultural, social, and ethnic backgrounds spend a significant amount of their after-school hours during their academic careers. This makes it necessary to take a variety of factors into account when planning the university's educational spaces. As the planning process moves forward, so does the design process, which shapes areas and reveals the best spatial compositions in accordance with planning decisions. Planning and design are therefore physical processes that come after one another (Korkut and Üstün Topal, 2015).

Physical planning is becoming increasingly important as it is rather costly to create the spaces that a university requires (Öner, 1999). University structures have a distinct meaning in terms of education and training as well as integrating people into society, in contrast to primary and secondary education. Within these frameworks, an individual produces original works and grows in areas such as selecting a career and related matters. An individual can succeed in such work if there are social areas that are cozy and practical as well as ergonomically designed. The greater the desire to produce knowledge and successful
original works can emerge, the more the individual masters the space and feels uniquely designer (Güner, 2019).

There are many studies showing that the social and cultural activity areas of university spaces are directly related to the individual and social development of students (Erçevik and Önal, 2011; Yılmaz, 2015; Şıramkaya and Çınar, 2012). However, Jarvis (2005) emphasizes that the learning environment created in educational buildings, which are the primary places where learning takes place, is the set of affective, cognitive and social interactions that each individual who uses that space establishes with the spaces. Therefore, educational buildings appear as one of the most basic design problems in which the quality of the spatial order is important as well as the fulfillment of the basic requirements of the physical space (Tunçok Sarberberoğlu, 2020).

The goal of creating a planned and programmed university structure is to improve the perceptions of the university among academics, administrative personnel, and students to raise expectations (Özyurt, 2019). Spatial disconnections prevent areas from being used efficiently and make it impossible to meet user demands in poorly managed design processes (Begeç, 2002). Faculties are complexes with various educational policies, and managing the faculty's units in a methodical manner is the only way to construct physical spaces that can adapt to these policies (Erkman, 1990).

In this sense, the study covers the entire process of designing and constructing a faculty building, taking into account educational policies, involving users in the design phase, and ensuring that all teams—including architects, engineers, educators, administrators, and construction workers—follow coordinated protocols.

The Selçuk University Faculty of Fine Arts building was selected as an example, and the design, application, and construction processes are all covered in the study. The study did not include the post-use evaluation phase. The content analysis method was employed as the study methodology. This method gathers files and documents related to the structure and gathers data based on observations and conclusions. The information gathered through interviews and descriptive analysis within the required definitions was put to use. A descriptive and content analysis component of a qualitative research methodology was applied. It covers the construction process as well as the phase of construction, which entails evaluating all of the findings and preparing preliminary and application projects, drafts, and sketches. In the course of the construction phase, field observations, data collection, and detection studies were conducted. The conclusion section included recommendations for resolving the research problem. Even though the events and phenomena experienced in the study were complex, interwoven, and involved many variables, an attempt was made to define and make sense of the whole by looking at a case study in which the authors participated and experienced. Therefore, it is believed that publications about the shared creative endeavors of designers as well as the process of designing and implementing built structures will be valuable resources for other designers as they share firsthand knowledge of analogous design processes. Furthermore, there is a distinction in the scientific platform regarding the significance of the study due to the fact that the sample structure can be used as a model for other structures in terms of educational spaces with identity and that project applications of this type should be dropped.

Conceptual Background

Design is defined as the form that emerges from the act of designing in a person's mind. The term "design" becomes a concept that is challenging to define in terms of content when it is combined with other meanings like "planning," "making sketches," "editing," and "designing." A plan or an idea for solving a problem is a brief definition of design found in a variety of literary sources (Demirarslan, 2006). Design is an extensive process with multiple phases. The term "design process" refers to the sequence of steps that include the methods and equipment utilized in the design action. Stated differently, the design process encompasses all the actions taken from the moment the design problem arises until it is resolved. This process may involve one or more considerations, forming a decision sequence, depending on the nature of the design problem (Bayazıt, 1994).

There are four steps in the design process. These consist of the pre-design, final, implementation, and construction phases of a project. Various types of information about the structure are gathered during the pre-design stage. These details are crucial for determining the location and effective use of the building that will be designed. Because of this, the needs of the users and the specific environmental factors of the place where the space will be used must come first in the design process. User requests are taken into account when creating a needs program. Stain studies and handwritten notes, known as sketches, are used to create alternative designs based on the requirements and program. At the sketch stage, the design philosophy needs to be correctly constructed. Because every design needs to have a foundation, or its primary theme, or its philosophy (Demirarslan, 2006). During the sketching stage, offering a range of alternative solutions within the framework of design philosophy helps to foster the development of design thinking. Writing down the thought process is a feedback process in design (Assiliskender, 2004). One of the crucial stages in the pre-design stage is coming up with alternate solutions. By choosing the best design from a range of potential solutions and developing it in two and three dimensions, the project is first scaled up at the final project stage. At this point, designers also select the material and size in addition to looking for form and function. The budget is another element that influences the design. During the implementation stage, it is possible to lose money and time by disregarding the opportunities and/or constraints given by the budget. The implementation project phase is the last step of the final project process, during which the design is turned into an application project, expert consultant reports from other disciplines and final engineering projects are used, the design's structural details and technical specifications are drawn, and the project's cost is determined. During the construction phase, the prepared implementation project is made available for use. The final stage, known as the construction phase, deals with the transformation of the design process into a physical building form. (Figure 1).
All of these procedures have distinct steps even though they are all similar in various building groups. Many researchers stress how important it is to build the stages of the design process correctly to improve the environment for learning, teaching, and socializing—especially in educational buildings (Gabrielsen & Saugstad, 2007; Temple, 2008; Çalışkan, 2023). Dutch architect Herman Hertzberger highlights the role of the architect in the education system expressing "The role of the architect is not to determine the education system, the architect should create a physical environment by following the ideas and philosophy underlying the education system" regarding educational buildings (Al Şensoy, 2019). The growth of the university and the caliber of the faculty are not as crucial to an effective educational process as the buildings in which architectural education is offered. This quality can be effectively determined by a variety of factors, including spatial features, data on the physical environment, and characteristics of residential areas (Çalışkan, 2021).

Material and Methods

The study's primary issues are the addition of new departments to Selçuk University's Faculty of Fine Arts and the inadequacy of the current structure to accommodate socialization and education-training programs. It was decided to construct a new faculty of fine arts building to address the issue. This building would house art education across multiple disciplines as well as exhibition and socialization spaces. The goal is to accurately schedule each step in the phases of the architectural design process for this reason. Studies on educational spaces have shown that physical space can either help or hinder learning (Uludağ, 2008). Specifically, faculty buildings are social and cultural spaces in addition to being places of learning. The quality of education and socialization is directly impacted by establishing the conceptual framework for the design, implementation, and construction processes of university education buildings and by correctly constructing the working method as a result of the information obtained. The design, implementation, and construction process of a sample area that the authors experienced are covered in the study. The study's methodology is based on qualitative research, which makes comprehensive use of interviewing, photography, on-site observation, and examination methods. The study's implementation, final, construction, and pre-design are the four stages of the project process. Every step comprises linked procedures.

Findings and Discussion

Established on December 4, 1999, the Faculty of Fine Arts at Selçuk University, situated in the Selçuklu district of Konya province, welcomed its inaugural students to the traditional Turkish arts and ceramics department in 2001. Admissions for the departments of interior architecture and environmental design began in 2003, while admissions for the painting department began in 2007. The departments of sculpture, graphics, industrial product design, and cartoon animation were empty at the time. In the 2650 m² building, educational activities were still in progress (Figure 2).
In 2007, it was decided to build a new faculty of fine arts building after the admission of students to the painting department. This decision was made due to the insufficient physical space of the existing building, which would not be enough to accommodate the departments planning to admit more students in the future. The study's authors were tasked with planning the new building, while Selçuk University's Technical Department and Construction Works managed and supervised the project. According to the faculty dean's office, as of 2007, there are 191 students and 27 academic staff members. It was determined that the issue would be resolved by creating a unique, cost-effective structure that is adaptable, development-ready, and capable of offering the best possible opportunities for art education as well as comfortable surroundings that are conducive to socializing and have highly performing, qualified spaces, while also taking into consideration the sections that are scheduled to open in the future.

The location where the Olympic Swimming Pool is located in the west, the Dilek Sabancı Conservatory Building in the east, and the university football field in the north were determined by the construction Works (Figure 3).

The designers and the department of construction works worked together to design the necessary planning and organization work, as the design process is made up of interconnected decision steps and stages of deciding on different contents. Administrative staff, mechanical, electrical, and civil engineers, as well as material suppliers, would all be involved in the design process, with decisions made jointly by the Technical Department of Construction Works, and the designers, employer, users, and trainers appointed by department heads or professors to represent each department. The team in question was the subject of frequent meetings, and steps were taken to guarantee that the project process was executed in a coordinated fashion. The fact that students, the structure's primary user group, were left off of the team was a serious shortcoming, even though instructors were involved in the design process as users. There was a contentious design process that involved all of the experts. The architectural design process was carried out in stages for the project, which included the construction phase, the implementation phase, the final project phase, and the preliminary design phase. Processes for information flow, feedback, evaluation, and control were planned for each stage of the system.

**Preliminary Design Phase**

It is generally accepted that preliminary design, which is thought to be the introduction phase of design, is a meaning-making process that can be characterized as a type of mental representation. In this context, the form related to function and construction, functional benefit and spatial efficiency, reality, direct expression, environmental harmony, transformability, and flexibility potential depending on the space-time relationship are expressed in the structure. These are all accepted as fundamental concepts that should be adhered to in the early stages of design. Conceptual design is defined as the place where architecture begins. Based on the idea of spatial continuity, the design created a comprehensive design fiction that combined traditional Turkish architectural elements like courtyards, covered canopies, and dead-end streets with contemporary methods for roof lanterns and intersections. A plan featuring a courtyard connecting two major arteries to secondary roads was solved with the help of sketch studies (Figure 4).

By examining their subunits, the administrative and educational blocks are bundled. Originally, the building was designed as a ground floor, first floor, and basement. The talks led to the inclusion of the second floor in the design, which took the building's potential for expansion into consideration. The building works department approved the proposal to partially subterranean the building to save costs.

**Final Project Phase**

The final project phase, which involves developing the building in two and three dimensions and scaling it down, started with the completion of the building's sketch works, divided into the education and deanery blocks. Furthermore, three-dimensional studies are becoming more and more important in the field of a space design to guide, explain, and inform users—especially those who have difficulty envisioning the space they are designing. In this way, the project's mass and interior space were expressed during the final project stage using AutoCAD and 3d Max software (Figure 5-6).
Implementation Project Phase

Selçuk University Construction Works and Technical Department organized the preparatory services, analytical studies of the building's final engineering projects, and expert consultant reports prior to the construction phase of the design. Following the final implementation project process, where the design's structural details and technical specifications were drawn up and a cost estimate was made, the construction process got underway.

Construction Project Phase

Following the 2008 comprehensive tender and 2009 contract signing, the Faculty of Fine Arts construction was underway. The building's floor height is 3.20 meters, and its approximate area is 14,000 square meters. It features a beamless hollow block flooring system with a reinforced concrete carcass structure. The interior partition walls were made of baked brick, while the exterior walls were made of aerated concrete. On a 260 cm axis, 50 cm x 50 cm square columns are constructed. The facades of the inner courtyards are covered in travertine stone, while the exterior is covered in mechanically assembled andesite stone (Figure 7-8-9).

Information about the Structure

Information about the Ground Floor

There are two entrances to the ground floor of the building: the deanery entrance from the east and the student entrance from the north. The student entrance greets visitors with a sizable exhibition space. Solutions that complement the Faculty of Fine Arts building have been developed for the student exhibition. The entrance exhibition area is flanked by two primary arterial horizontal circulations that run to the right and left. From these two principal arterial circulations, there are auxiliary corridors. By serving as streets, secondary corridors help to define sections. The interior architecture street is home to the interior architecture department's workshops and instructor rooms. Yet, the streets cannot be clearly distinguished from one another due to the usage of shared classrooms by departments. The building contains seven courtyards which create an open area inside the enclosed structure because they are directly connected to the corridors. As a result, the courtyards provide users with a variety of affairs for relaxation, mingling, and activities. The main arteries' open ends that extend southward give the structure flexibility by accounting for its potential for expansion.
The building's cores, which consist of a wet area across from the stairs, are located at the intersection of the corridors. The focal point of the Faculty of Fine Arts project is a 240-person conference hall that can accommodate gatherings for meetings, events, and graduations. The courtyard is connected to the foyer area in front of the conference hall entrance. On the ground floor, there's a cafeteria as well, which can adjust to users' eating and drinking habits. Shuttle service between events and meetings is made easier by placing the cafeteria adjacent to the conference foyer area. During the preliminary design phase of the Faculty of Fine Arts project, the sculpture department specifically recommended the placement of a monument-sculpture workshop inside the building. The workshop should have a height of roughly 6 meters. The ground and first floors were joined in this direction to form a workshop that stands 6.40 meters tall. A door that is four meters wide and six meters high and has a direct opening to the outside was made to transfer the monumental sculptures that were prepared in the workshop from the faculty to a different location. As a result, a vehicle equipped with a rail crane system that can enter the workshop can move the enormous sculpture to different locations. A sizable exhibition space with the option to display in natural or artificial light can be found in the Dean's Office building. From the very beginning of the design process, the Dean's Office and the education block have included accessible restrooms and elevators for individuals with disabilities (Table 1).

**Information about the First Floor**

The ground floor's entrance exhibition area is 6.40 meters high, with a steel bridge that connects the main arteries on the first floor. Thus, the building's high entrance area added volumetric richness. The first and second floors of the building, where the corridors and cores are located, have spaces opened up from the floor. To maintain the vertical integrity between floors, these spaces are crucial. It draws interest as an exhibit tool as well. Students can work, interact, and create in the "design kitchen" located above the conference hall foyer area in between classes. The design kitchen makes it possible for the area to face the courtyard and provides upper-floor viewing for any exhibitions or events taking place in the foyer.
Table 1. Ground floor plan and images from different spaces (Images belong to the authors)

Ground Floor Plan

Entrance Exhibition Area

Vertical Circulation

Wet Area

Auditorium

Cafeteria

Courtyard

Monument Sculpture Workshop

Table 2. First floor plan and images from different spaces (Images belong to the authors)

First Floor Plan

Bridge Over Entrance Exhibition Area

Nodal Point Gapping

Design Kitchen

Workstation

Exhibition Niches

Socialization Areas

Deanery Circular Steel Staircase
The design kitchen makes it possible for the area to face the courtyard and provides upper-floor viewing for any exhibitions or events taking place in the foyer. Once more, a workstation was suggested for the first floor, on the opposite side of the conference hall, allowing students to design throughout the structure. Artworks can be displayed in exhibition niches that have been created on both sides of the corridor junctions. The main arteries are designated as socialization areas, which facilitate exhibition and socialization and offer users experiences beyond education. Additionally, the first floor of the deanery block houses offices for student affairs, accounting, and meeting spaces. A circular steel staircase connects the floors (Table 2).

**Information about the Second Floor**

The corridor intersection space on the first floor is also located on the second floor. The top cover material of these spaces is chosen as glass so that the daylight coming from the roof descends to the ground as light filtering. The roof of the circular steel staircase in the deanery block was treated with the same method. The first and second-floor classrooms and workshops, as well as the socializing and exhibition areas across from the instructor rooms, are crucial in capturing the essence of the fine arts faculty. The choice of colors, textures, and materials to symbolize the section defines the corridors, which are likewise divided into sections (Table 3).

**Information about the Basement Floor**

During the design process of the Fine Arts faculty building, academic staff users of departments such as painting, ceramics and sculpture requested that the materials be stored in appropriate environments. Additionally, administrative staff requested large warehouse areas to store official documents. However, the Selçuk University Department of Construction Works recommended constructing a partial basement floor in light of the expense of constructing a full basement floor. As a result, the education block and the deanery block were set up as basement floors. This floor has been designed with storage spaces to accommodate every department and administrative unit's requirements. Among the units on the basement floor are technical units and shelter areas. The shelter area has been rearranged for exhibition today due to its large size. The basement floor's ceiling design, which features traditional motifs at the exhibition's entrance, created a different viewpoint (Table 4).

Table 3. Second floor plan and images from different spaces (Images belong to the authors)

<table>
<thead>
<tr>
<th>Second Floor Plan</th>
<th>Corridor Intersection Gap and Roof</th>
<th>Deanery Staircase and Roof</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socialization-Exhibition Areas</td>
<td>Sculpture Department Corridor</td>
<td>Traditional Crafts Department Corridor</td>
</tr>
<tr>
<td>Interior Architecture Department Corridor</td>
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Table 4. Basement floor plan and images from different places (Images belong to the authors)

Basement Floor Plan

Exhibition Area (Shelter)

Exhibition Area (Shelter)

Exhibition Entrance

Exhibition Entrance

Conclusion

Solution-oriented methods are a part of architectural design, which is founded on the creation and reorganization of the physical environment. Thus, the most crucial components of the physical environment are the establishment of an accurate and effective design process as well as the structures that are constructed and house the institutional system. Universities are one of the institutions where sociological and social developments occur in addition to knowledge production. The university has instructional spaces where experts in a range of arts and sciences receive training. The needs of various disciplines, such as engineering, education, and the arts, can influence these learning environments, known as faculties.

Unlike other faculties, the fine arts faculty serves as a training ground for aspiring artists like sculptors, painters, and graphic designers. Being creative is essential to creating art. Originality is dependent on various elements as well as areas where design is allowed to flow freely. Studies have shown that artistic education in structures that provide users with unique experiences is different from that provided in faculty buildings with standard floor plans. Scholars underscore that the quality of education is also impacted by physical space. The study's findings support the notion that improving functional benefit expectations and user needs and expectations can have a substantial positive impact on both spatial quality and academic performance. One of the most significant results of this study in terms of saving time, energy, and money is the planning of the preliminary design, final project, implementation project, and construction phases from the very beginning of the design process and leaving as few issues for the construction phase. The process, which involves collaboration between stakeholders from various disciplines and necessitates coordination, is systematically maintained, which is another outcome of the study.

In a nutshell, it has been established that, depending on the content and the final product, a methodical approach to design preparation can and may result in favorable outcomes. The results of the design process, which are derived from the correlation of all the data gathered from the case study's research and the process's experience, are believed to be able to offer direction by offering a range of data that may also be applicable to the pre-planned design processes of buildings with comparable features.

Acknowledgements

We extend our sincere thanks and gratitude to the Rectorate of Selçuk University, the Department of Construction Works, and the Technical Department for their unwavering support and valuable contributions in bringing together all stakeholders, from planning the architectural project to its implementation phase. We also appreciate the Deanship of the Faculty of Fine Arts and all the faculty professors for their solution-oriented approach. This study stems from the Selçuk University Faculty of Fine Arts Architectural Project, and the authors of this study are the same as the authors of the architectural project.

This article was presented orally and published in summary at the 3rd International Congress of Turkish Journal of Agriculture- Food Science and Technology held in Malatya-Türkiye.
The Declaration of Conflict of Interest

The authors declare that there are no competing financial and non-financial interest.

The Declaration of Ethics Committee Approval

This study does not require ethics committee permission or any special permission.

References


