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## Basic Design Education Approach Example and Comparative Analysis

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### Abstract

The architectural education process in most state and foundation universities in our country is generally based on the backbone of 'Basic Design Education'. The study is based on the course outputs of Bolu Abant İzzet Baysal University in the Fall Semester of the 2023-2024 academic year. Within the scope of the course, although a similar course operation was determined for two different branches, different activities were deliberately carried out, especially in the concept development process. With this approach, the students of one branch were given a large number of assignments and applications to experience the design process through various experiments with different disciplines. In the other branch, the scope was broader and the emphasis was on examples, assignments, and applications within architecture. The methodology outlined in this study is qualitative in approach and deals with a comparative analysis of the approaches between the branches. The study aims to contribute to the improvement of the learning-oriented model in the process of Basic Design Education in Architecture undergraduate education, as well as to create a discussion environment on the linear or inverse proportions of the educational approach that requires more effort, time and labor in quantitative terms on the results.

**Keywords:** Architecture Education, Design Education, Basic Design Education, Basic Design, Conceptual Process.

## Temel Tasarım Eğitimi Yaklaşım Örneği ve Karşılaştırmalı Analizi

### Özet

Mimarlık eğitim süreci ülkemizdeki çoğu devlet ve vakıf üniversitesinde, genellikle 'Temel Tasarım Eğitimi' omurgası üzerine kurulmuştur. Çalışma, Bolu Abant İzzet Baysal Üniversitesi'nde 2023-2024 Eğitim-Öğretim Güz Dönemi'nde gerçekleştirilen ders çıktılarına dayanmaktadır. Ders kapsamında, benzer bir ders işleyişi iki farklı şube için belirlenmiş olsa da özellikle kavram geliştirme sürecinde bilinçli bir şekilde farklı etkinlikler yapılmıştır. Bu yaklaşımla, bir şubenin öğrencileri, tasarım sürecini farklı disiplinler aracılığıyla çeşitli denemelerle deneyimleyebilmeleri için fazla sayıda ödev ve uygulama gerçekleştirilmiştir. Diğer şubede ise, kapsam daha geniş tutulmuş ve mimarlık disiplini içinde örneklemeler, ödevler ve uygulamalar üzerinde durulmuştur. Bu çalışmada belirtilen yöntem, niteliksel bir yaklaşımla ele alınmış olup, şubeler arasındaki yaklaşımları karşılaştırmalı bir analizle ele almaktadır. Çalışmanın amacı; Mimarlık lisans eğitimi içerisinde yer alan Temel Tasarım Eğitimi sürecinde, öğrenmeye odaklı modelin iyileştirilmesine katkı sağlamanın yanı sıra niceliksel olarak daha fazla çaba, zaman ve emek gerektiren eğitim yaklaşımının sonuçları üzerindeki doğrusal veya ters orantıları konularında tartışma ortamı oluşturmaktır.

**Anahtar Kelimeler:** Mimarlık Eğitimi, Tasarım Eğitimi, Temel Tasarım Eğitimi, Temel Tasarım, Kavramsal Süreç.

### 1. Introduction

With the Industrial Revolution, one of the important ruptures in the approach to architecture and design and related education, many end products such as construction, urbanization, and outputs in creative fields have changed (Amen & Kuzovic, 2018; Amen & Nia, 2021; Abdulla & Abdelmonem, 2023; Afolabi & Adedire, 2023). With the onset of industrialization in the 19th century, changes that affected all areas of life emerged. Still, radical educational reforms in the field of design and building took place, especially during the Bauhaus period. One of the main reasons for the worldwide impact of this period is that it led to fundamental changes in production processes, which had a profound impact on the artisan tradition. This change caused art education to move away from the traditional master-apprentice relationship to more institutionalized educational environments (Ranjan, 2005). It is seen that this process, which has deeply affected production since this period, has also significantly affected education in design and related fields. Therefore, with this break, it is seen that Basic Design Education has gained more and more importance at the professional level. (Esen et al., 2017, p. 38). If we take the year 1919, when the Bauhaus was founded, as the date of the first implementation of the course, it is seen that basic education, which has experienced 96 years, has undergone various changes and developments. Since its foundation, the works of many artists trained by the school in both art and architecture have been included in the literature and have created valuable resources for those interested in the profession. Although the Bauhaus School could only provide active education from 1919

to 1933, its manifesto and founding idea managed to create a strong foundation for various educational institutions, instructors, and courses (Esen et al., 2017, p. 43).

The design education and process within the scope of the field of architecture and design consists of a large number of courses that develop intellectual and conceptual skills, transfer technical and theoretical knowledge, and are predominantly applied based on learning by doing and using the theoretical and technical knowledge gained during the education process. The courses and their contents in the curriculum at the undergraduate and graduate levels vary between institutions, but there is a commonality in the general approach.

The Basic Design course, which forms the backbone of architecture and design education, has content that is included in the curriculum in the first years of undergraduate education nationally and internationally. Students who start to receive design education through this course are largely unaware that they are stepping into a different world beyond the usual. With their perception styles and knowledge of design elements and principles, they develop sensitivity to developing creative thinking and having a common design language over time. Their ways of thinking change and develop with this new world perception.

Because basic design education includes a system in which all techniques and methods of seeing, interpreting, and associating are taught. Basic design education includes a theoretical and practical education process in which the principles and elements that enable the student to achieve the best in design are taught (Ertok Atmaca, 2014, p. 8). The course is based on three foundations: theoretical, practical, and pedagogical. The curriculum framework, which is valid for all design fields and includes basic elements and elements, constitutes the theoretical basis. This theoretical foundation, which is also supported by field knowledge, constitutes the core of the course. The practical basis is how this theoretical knowledge is handled - in this course, which is based on action-based teaching, the practical is the transition of thought into action. The main objectives are to master the material knowledge specific to the field of education, to develop technical and manual skills, and to realize the practical basis through exercises. In other words, among the main objectives of the course is to enable the student to recognize and perceive the visual language and to create products with artistic value by using this language and creativity.

The practical basis of the course is also a link to the craft roots of the profession. Through learning by doing, knowledge is transferred into action. The pedagogical basis primarily aims to develop creativity and abstract thinking, helps the student to create professional behavior models and their value judgments, remove mental barriers, and develop design concepts (Akbulut, 2014, pp. 25, 26). The methods applied in design education, whose main purpose is to reveal and develop students' creative thinking potential, are constantly questioned and renewed. The focus of these methods also varies, some of them aim to provide students with the ability to think in two and three dimensions, while others aim to provide students with a way of thinking about the sources of inspiration to be used in design (Onur & Zorlu, 2017).

In the context of the basic design course content; it has a character that continuously maintains the interaction between theory and practice and has unpredictable outputs. With criticism/critical evaluations, the point of view and the expressive power of the student are tried to be carried to a more consistent form at every step. It includes a way of perception shaped by personal sensitivities and skills with different experiences and progression skills for each student/learner and the concrete representation of this form.

In basic design education, which is based on learning by doing, after the subjects conveyed in the theoretical content, applications/assignments/exercises are made to comprehend these subjects. It is possible to include two and three-dimensional concepts that constitute the general content of the course within the scope of practical content. To reinforce the subjects learned, two-dimensional abstract composition studies can be made in design studios by using design elements and principles, and these studies can be transformed into three-dimensional concrete products.

Within the scope of the research, the subject of Basic Design Education is limited to "Architecture" and related disciplines. The study aims to discuss the outcomes of the "Basic Design" course completed in the fall semester of 2023-2024 at Bolu Abant İzzet Baysal University, Department of Architecture. Throughout the semester, the students of the two departments received the theoretical knowledge given jointly and simultaneously with the same weekly plan. During the practical knowledge and intellectual/conceptual process phase, different applications were deliberately included and an analysis was planned to be made to improve the education. This study is a comparative analysis of the content and a report on the evaluation of the process.

## **2. Architectural Education and Basic Design**

Today, basic design education is carried out under different names such as visual design, basic design and applied design. The education process is based on the understanding of the holism between art and design with theoretical and practical programs that adopt the Bauhaus approach.

The "Basic Design" course, which forms the basis of design education, is included as a compulsory course in the curricula of many fields at the undergraduate level. In some institutions in our country, in addition to being a common course of more than one field, it is also seen that it is limited only to the field in which it is located. Although

it may include a variable curriculum and functioning depending on the institution, there are many studies on the educational decisions and content of the Bauhaus school with similar course objectives. According to Atalayer, even the simplest production requires knowledge and technical mastery. For production-based art and design fields, basic art/design education develops competencies in planning, research, supervision, design and decision-making, and activation of application functionalities. The activation of practice begins with collective criticism and questioning (Atalayer, 1994, pp. 87, 88). In the field of architecture, the content of the course progresses in the direction of perception forms, comprehension of design elements and principles, reinforcement through exercises, and the development of other competencies mentioned. With the maturation of basic concepts, relationships, and theoretical data; as Atalayer mentions, it is seen that it develops on the subject of function and the first ideas/experiments/exercises on the creation of “space” with the concepts and requirements of the field. At this very point, it is possible to observe how “Architecture” has been transformed from all design fields and how parameters related to spatial awareness have been added on top of its requirements.

Among the most prominent outputs of the Bauhaus movement is the field of architecture. The Bauhaus school, which expresses an important intellectual and formal beginning, especially in the field of “Basic Design”, and the scope of the subject have been extremely decisive in determining the international qualities and scope. According to Denel, we can find the reason why the phenomenon of basic design, which started with Bauhaus, has been able to exist for such a long time despite undergoing radical changes, in the following view that defines Bauhaus: Bauhaus was not an institution with a clear program, it was an idea... In my opinion, it is because it was an idea that its great influence has been able to absorb every advanced school in the world. This cannot be done by an organization. It cannot be done through propaganda. Only ideas can spread so widely. In other words, basic design is a system of thought that organizes the generation of ideas (Denel, 1981, p. 54). The basic ways in which spaces can relate to each other and be organized consistently in terms of form and spatial patterns are also related to the principles of basic design.

The basic design studio is one of the most basic training that students studying design, including architecture, receive. Bolu Abant İzzet Baysal University Department of Architecture similarly includes this course in its undergraduate curriculum as a compulsory course in the first semester of the first year. The course, which is not included in any other year or semester, is only included in one semester during the 4-year undergraduate education. The content of the course is similar to the education given in institutions that support the Bauhaus approach. The content of the course consists of design principles, design elements, visual perception and organizing principles, and three-dimensional concepts. This program is shaped according to the requirements of the design discipline in which the course will be taught. By creating various design problems, a scope and weekly plan are determined from simple to complex, where students question the problems themselves, as well as trials of gradual difficulty where students experience solution methods through 2D and 3D exercises. In the last and most important stage, the student is expected to form his/her own unique style and value judgments as a result of criticism, presentation, discussion, jury evaluations, and impressions from all these in the studio environment. The whole process of the semester is planned and shared with the students.

Although the objectives of the course, which is taught in two branches, are common;

- to ensure that the concepts / theoretical acquisitions related to design taught can be used/made sense of in the context of the work
- to gain the ability to create compositions with the sensitivities of approaches to aesthetic perception
- design problem posing or learning a lesson
- solving the created/put forward design problem
- consistently develop and refine a solution to the problem in a context of sensitivity/content/consistency
- consciously experience the first exercises of concept development
- the creation of initial awareness of the nature of design, such as the student's experience of exploring the design process.

In other words; design-oriented thinking, researching through design, gaining knowledge about the steps of idea development, and experiencing and producing design outputs that can form a coherent whole through exercises.

### **3. Basic Design Education Approach and Case**

When the studies on design education are analyzed, the 1970s are seen as a breaking point in terms of the importance of the relationship between practice. The 1990s, on the other hand, are very important in terms of being a period in which the dichotomy of “research-based” and “practice-based” among instructors disappeared. While it was more common for professional architects and interior architects to teach in the academy before, the inclusion of those who completed their doctoral theses after the 90s led to changes and developments in the understanding of education. In the 2000s and beyond, it is seen that there has been a break in the traditional understanding of

education. With this break, it is seen that the design education course and its content tends to be practice-based and practice-led (Başçı & Koca, 2022, p. 108).

In Bolu Abant İzzet Baysal University Department of Architecture, a single semester course named “Basic Design” is included in the curriculum as a weekly 8-hour and 8-credit course. Among the educational approaches; it can be said to have a practice-based character. The stated focus on practice brings along an experience-oriented approach. It has content in which each student individually discovers and develops his/her perception/construction abilities. Within the scope of the course where all the theoretical content is shared from simple to complex at the beginning of the semester, in-class practices and assignments vary. In this context, the course was taught for a total of 14 weeks in the specified year and semester, and until the midterm exam date and stage, planning was made for the acquisition of data related to the basic concepts (introduction of materials, design elements and their effects, definitions of design principles, examples and creation attempts, general approaches and experiments on topography and structure concepts, and 2D and 3D studies) (Figure 1).



**Figure 1.** Topography stage critical (Personal Archive, 2023).

After the midterm exam, the students were expected to create unique expressions with two and three-dimensional essays about the cities in Italo Calvino's book *Invisible Cities*, which will define the city. Throughout the semester, studio work was carried out under the supervision and control of the instructor and research assistants. Throughout the semester, announcements and assignment submissions were made on the Google Classroom platform. The assignments were critiqued and discussed formally in the next course content.

During the 8 weeks following the midterm exam in the 7<sup>th</sup> week of the semester, a total of 10 pre-selected cities from the content of the book “*Invisible Cities*” were left to the student's choice and given equally. Care was taken to have different dominant design elements and principles in each of the cities selected in different themes. In the eleventh week, the second midterm exam was held within the scope of the specified subject. The final exam; again as a continuation of the subject determined by the content of the book; included the final products of the steps performed during the semester such as analyzing, concept development, creating a common language, model making regarding the 2 and 3-dimensional literary city. The exam process and evaluation, which included the oral presentations of the students in front of the jury, were carried out separately by the branch coordinators.

The content of the “Basic Design” course, which is divided into two sections “A” and “B” during the whole semester, differs in terms of its differentiation in the assignments and practices subject to the study.

#### **4. Model Building and Comparative Analysis**

All theoretical information was shared in the two sections of the course, and after the lecture, the application and critical evaluation phases were completed completely separately in the classrooms assigned to the instructors. For the students of the two sections to see different and numerous examples of each other's work, assignments and applications were hung in the corridor close to the two classrooms located close to each other and asked to remain hanging until the next lesson. Each instructor provided feedback on the work of the students in his/her branch and tried to contribute to the students' experience at the desk without being a dominant character during the implementation. The reason why the two branch coordinators could not evaluate the applications and assignments jointly is that the “Basic Design” course needs to work as a studio through the relationship to be established with the students individually.

It is seen that the number of students who were absent from the course with a grade of FF among the students of the two branches is close to 15%. The grading for the course was carried out as an evaluation of the whole semester, taking into account the studies, homework applications, and absenteeism (Table 1).

**Table 1.** Data on students taking the course and their success levels

Quantity	Section A	Section B
Total number of students	61	62
Number of absent students	9	17
Number of unsuccessful students excluding absenteeism	0	10
Number of students participating in the final exam	49	46

Within the scope of the course, the same program was taught weekly in the two branches. The course was taught jointly and then the same content was included in the applications and assignments defined by the planned content (Figure 2). A and B section students watched each other's work but were criticized in their groups (due to the number of students) (Figure 3). However, although the starting time of the lesson was common, within the scope of the experimental study, one of the classes was asked to work in addition to the other. Although the content, scope, and quality of the studies did not change (2 and 3-dimensional searches of the concepts and formal/semantic relations of the concepts explained in the course), there were differences in their quantity (Table 2) (Figure 4,5).



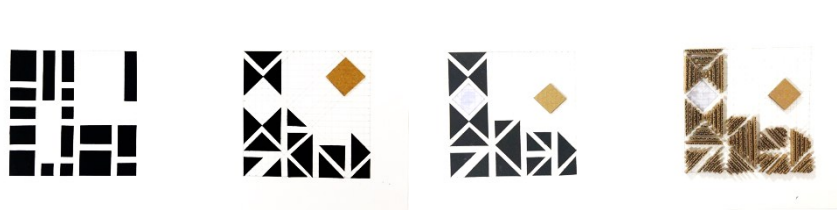
**Figure 2.** Some of the submissions for the topography assignment, which was defined as a common assignment in Branches A and B (Personal Archive, 2023).



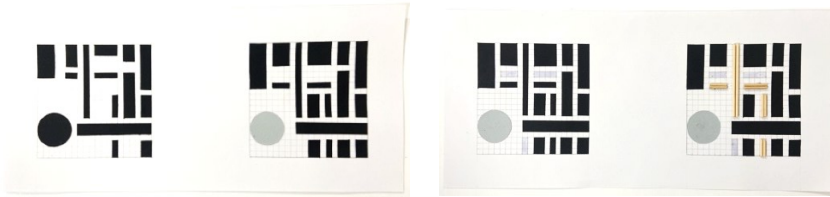
**Figure 3.** Examples of assignments related to student work on topography in class A (Personal Archive, 2023).

**Table 2.** Branch-based homework and application distributions

Quantity	Section A	Section B
Number of applications during the semester	8	9
Number of assignments defined during the semester	6	8



**Figure 4.** Example of a homework assignment on 2D and relief work on the conceptual process of branch B (Personal Archive, 2023).



**Figure 5.** Example of homework related to 2D and relief work on the conceptual process of branch B 2 (Personal Archive, 2023).

The two branch instructors of the course diverged in the way they practiced exercises and ideas from different fields, especially within the framework of the Bauhaus school. Branch A has realized the elements and principles of design through simple geometric forms, mostly to create visual arrangements and to critique spatial requirements in the field of architecture. Branch B, on the other hand, exemplified a similar sensibility by making connections with other fields of design and art and diversified the nature of assignments and practices in this context (Table 3).

**Table 3.** Areas related to homework and practice defined by the course content

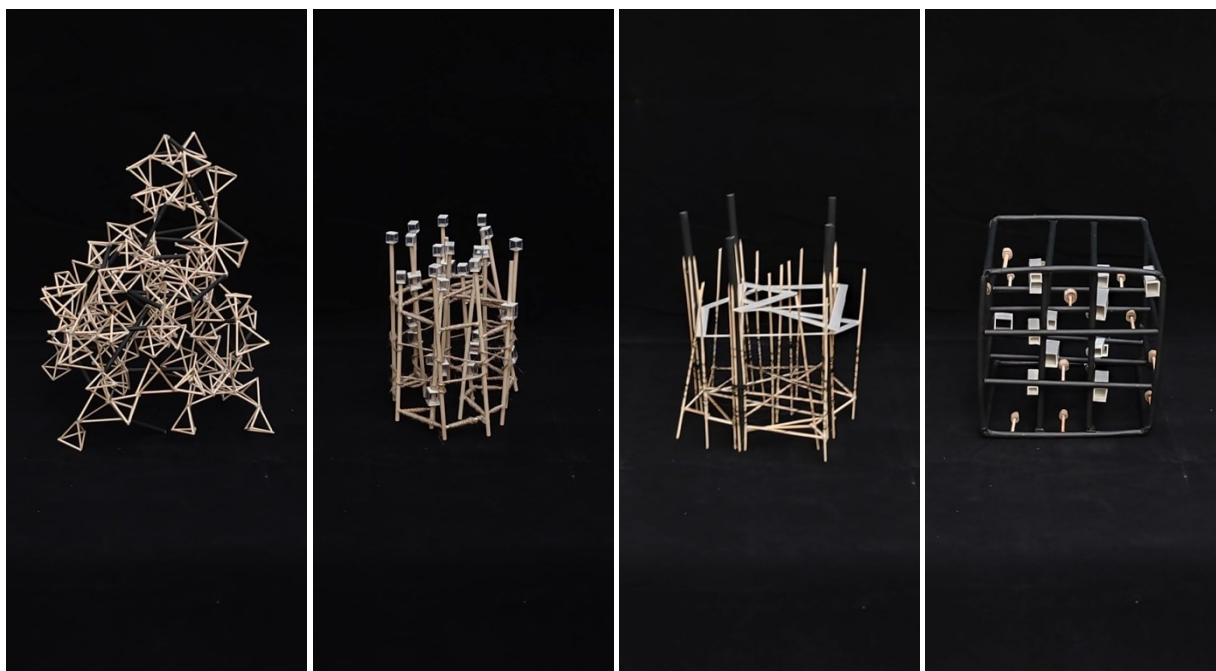
Area of specialization	Section A	Section B
Architecture	X	X
Painting		X
Graphic	X	X
Industry Products		X
Music		X

Unlike the students of Class A, the students of Class B tried to create a similar sensitivity through collage work and experimented with atmosphere creation and geometric similarities in design applications in the same 10 cities. Similarly, with the steps of designing the posters about the conceptual process and the theme, development has been achieved in the subjects of making all consistent approaches related to whatever design idea is emphasized in the city studied related to music and discussing the reasons for it. Finally, they were asked to design a new milk carton to represent their city in line with the ideas in focus, using existing milk cartons as part of a coherent whole (Figure 6).

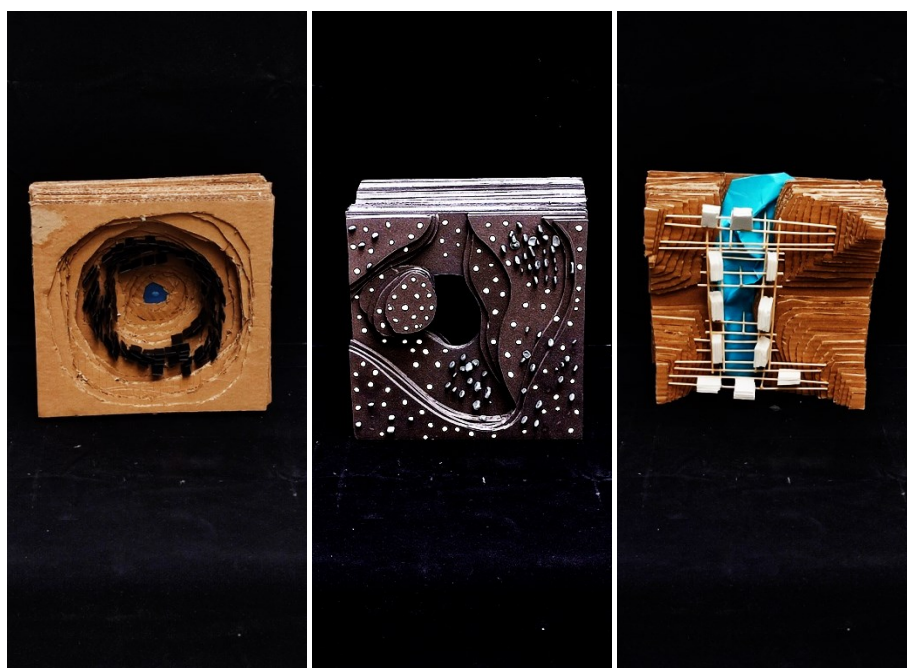


**Figure 6.** Example of the conceptual process, model, collage, and final submission for the milk bottle design whole of branch B (Personal Archive, 2024).

The final submissions of the semester-long projects, which were similar in content but different in output, were brought together in an exhibition and documented and archived by the coordinators. The qualitative differences between the output products of the students of sections A and B are the similarly required conceptual process, layout design, 2D sketches, and the final model study (Figure 7, 8). The course contents that were organized at the end of the semester were the layout and 3D model studies (Figure 9).



**Figure 7.** No. 1 city A branch final submission model study examples (Personal Archive, 2024).



**Figure 8.** No. 1 city B branch final submission model study examples (Personal Archive, 2024).



**Figure 9.** Exhibition arrangement of the final submissions of A and B sections, BAIBU Faculty of Architecture Atrium (long stands are reserved for A section and short stands are reserved for B section student works) (Personal Archive, 2024).

As a result of the work of the A and B sections throughout the Fall Semester, two midterm exams, and one final submission, the semester grading was carried out considering the performance of the students throughout the semester. Since many student works were photographed and archived, only a few examples were included in the study.

## 5. Conclusion and Recommendations

The scope of the study defines an experimental process focused on the content of the Basic Design course in Architectural Education and consciously constructed over some time. The course content, which is accepted at the undergraduate level as a basic course in the fields of design and art, has been analyzed by changing what is required between the branches to determine whether it contributes, and if so, to what extent, with support from various fields. This is because Basic Design helps to teach abstract and conceptual thinking in a coherent framework, despite the variables between different disciplines. In the design process, many design steps such as generating ideas, developing concepts, creating and solving problems are solved commonly in different fields. The concept of function, which affects the final product, is within the scope of architecture and related fields.

As a result of the study, which includes the course outputs of the 2023-2024 Fall Semester at Bolu Abant İzzet Baysal University Faculty of Architecture, the works carried out during the whole semester were examined quantitatively and qualitatively. In basic design/art education, after the students are given theoretical knowledge, they are provided with practice to find solutions to existing problems based on the knowledge they have acquired. The works resulting from this practice are openly criticized as a subject of discussion in the studio environment. By ensuring the participation of the students in the criticism, the erroneous parts are corrected based on the answers they give to the questions directed to them from time to time and they are ensured to fully understand the subject (Güngör, 2005). In accordance with Güngör's statement, theoretical knowledge was included in the program at the beginning of the semester, and the potential for establishing relationships was intended to be increased by sequentially timing the application of the given knowledge and constructing it from simple to complex.

It is seen that the students of both branches were involved in a process that they had never experienced before and that the students who continued to participate improved their ability to establish relationships over time, to make sense of design principles, and to use them. John Dewey argues that learning is experiential, a matter of discovery rather than access (Dewey, 1938). The extent to which the student, who is trying to perceive a way of thinking that he/she has never known before, is simultaneously aware of the individual needs of today's young people, such as being new to a city, seeking solutions to financial and social problems, and the awareness of their discoveries is a question that needs to be answered separately. However, it is seen that the number of students who consciously fulfill the requirements of the course and have the appropriate cognitive and technical equipment for its purpose is more than half. This rate is 100% for Branch A and 86% for Branch B. It is thought that there are various reasons for the difference in success between the branches. The extent to which this percentage difference is related to the content and number of assignments and practices was not addressed in the study. The reason for this situation is thought to be parameters such as the fact that the students in both branches do not have the capacity for an equal number of over-achieving students and foreign students with similar nationalities.

The method used in design/art education is focused on experimentation and exploration. Since the experiments and applications are carried out for art, it is aimed at the student to reach multi-dimensional intuition and evaluation skills. In this context, no significant qualitative difference was observed for the two branches of the course, which



aims to contribute to the student's design education through regular practice and homework. It is thought that the process and quality of the study are more important than the number of studies. One of the most important data of the study is that the more you distance the design process from the design branch, the more difficult it will be for the student to establish a connection. It is seen that the students did not have difficulty in music to be associated with the concept/idea/sensitivity focused on in the design made in the focus of branch B and that most of them encountered a successful result, but in the milk box design task, which can be seen as an output of the industrial products design branch, it is seen that they have largely unrelated design outputs. In other words, it is recommended that the outputs of the "Basic Design" course in the field of architecture, whose functional problem is space, should be selected from fields that the student can establish a primary relationship with. Determining the quantity of assignments and applications determined by the course content in advance and solving them in the optimum will provide support for the improvement studies to be given to the student by allocating more time to the studies.

#### **Conflict of Interests**

The Author(s) declare(s) that there is no conflict of interest.

#### **References**

- Amen, M. A., & Kuzovic, D. (2018). The effect of the binary space and social interaction in creating an actual context of understanding the traditional urban space. *Journal of Contemporary Urban Affairs*, 2(2), 71–77. <https://doi.org/10.25034/ijcua.2018.3672>
- Amen, M. A., & Nia, H. A. (2021). The Effect of Cognitive Semiotics on The Interpretation of Urban Space Configuration. <https://doi.org/doi:10.38027/iccaua2021227n9>
- Abdulla, K., & Abdelmonem, M. G. (2023). Mapping Safety, Security and Walkability of Historical Public Open Spaces in Post-Conflict Libya: Tripoli as North African Case Study. *Journal of Contemporary Urban Affairs*, 7(2), 85-105–185–105. <https://doi.org/10.25034/IJCUA.2023.V7N2-6>
- Afolabi, S. A., & Adedire, M. F. (2023). Adaptive Strategies Used in Urban Houses to Overheating: A Systematic Review. *Journal of Contemporary Urban Affairs*, 7(2), 106-126–106–126. <https://doi.org/10.25034/IJCUA.2023.V7N2-7>
- Esen, E., Elibol, G. C., & Koca, D. (2017). Basic Design Education and Bauhaus. *The Turkish Online Journal of Design, Art and Communication - TOJDAC* ISSN: 2146-5193, January 2018 Volume 8 Issue 1, 37-44. doi: 10.7456/10801100/004
- Ertok Atmaca, A. (2014). *Temel Tasarım*. Karabük: Nobel Yayınevi.
- Akbulut, D. (2014). Tasarımda Temel Etkileşim: Temel Tasarım Eğitiminde Bütünleşik Ortak Zemin. *Sanat ve Tasarım Dergisi*(13), 23-40, doi: <http://dx.doi.org/10.18603/std.46561>.
- Atalayer, F. (1994). *Temel Sanat Öğeleri*. Eskişehir: Anadolu Üniversitesi Yayınları.
- Denel, B. (1981). *Temel Tasarım ve Yaratıcılık*. Ankara: ODTÜ Mimarlık Fakültesi Yayınları.
- Güngör, H. (2005). *Temel Tasar (Genişletilmiş 3.baskı)*. İstanbul: Eren Ofset Matbaası.
- Başçı, S., & Koca, D. (2022). An Examination of the Role of Practice in Design Education and Production of Space Process. *MODULAR* 5(1), 98-111.
- Dewey, J. (1938). *Experience and Education*, The kappa delta pi lecture series. New York: Collier Macmillan.
- Onur, D., & Zorlu, T. (2017). Tasarım Stüdyolarında Uygulanan Eğitim Metotları ve Yaratıcılık İlişkisi. *The Turkish Online Journal of Design Art and Communication*, 7(4), 542-555. doi: 10.7456/10704100/002