

Transition from intangible to tangible in landscape architecture basic design course

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Abstract

Basic design is a unique, essential and obligatory course for all disciplines that tackle with design. In this course, students learn basic concepts on their fields while they learn design elements and principles with applied work. When design is considered as a type of problem-solving act, Basic Design course teaches abstract thinking, which is the most basic tool of this act. We construct the content of the Basic Design course to analyze the facts and a given problem, solve it, to transform the concrete to the abstract. Design educators need to produce information utilizing original methods and share them with all design educators. The present study aims to share a design method that entails the translation of intangible to tangible. The process of approaching the tangible spatial construct from abstract concepts was examined in the freshmen basic design course in landscape architecture education and the contribution of this process to landscape architecture education was addressed. Thus, in the first phase of the study, the work produced by the students during the semester and finals during the basic design course at Karadeniz Technical University Landscape Architecture Department were sampled and examined. In the second stage, a survey study was conducted to investigate the students' level on abstract concepts, how they were able to translate intangible to tangible, their level of associating the design concepts with spatial construct and the effects of the design process on learning. Thus, the process within the basic design course was examined and the instruction level was attempted to be determined. As a result, it was determined that students learned abstract concepts well during the basic design process, but they experienced difficulties when relating these concepts to the spatial construct, in other words translating the intangible to tangible, due to their low level of experience in design. Therefore, it was determined that the students found the course instructive but the process challenging.

Keywords: design education; basic design; intangible-tangible relationship; landscape architecture.

Introduction

Design is the action of creating the inexistent by associating the existing (Öztürk, 2010). The existing mentioned in the above definition are the data that enters into the limits of the perception of the individual and remains in the mind, the quality of which is determined by the forms of perception and the quantity of which is determined by the sensual threshold. These are everything that the individual can collect using the senses throughout her or his experiences and store it in her or his mind (Öztürk and Arayıcı 2011).

Since the intangible nature of the act of design, it is inevitable to relate the existing with their abstract forms. Thus, the abstraction of tangible entities and the materialization of the associated abstract entities through design are the cycle of the design process. However, although the design

itself is a tangible outcome, it is not possible to neglect the abstract action of the process utilized to obtain that concrete outcome.

Design education is an act similar to the process of design and requires a methodical infrastructure like every action. The main emphasis of design education should not be the outcome but how the process would work. The basic design education is a process that enables the student to communicate with her or his field by introducing several intellectual processes such as perception, impression, observation, research, association, invention, information, evaluation and several others while delivering original forms utilizing new arrangements (Pazarlıoğlu 2005; San 2010).

Design training starts with seeing. It continues with visual thinking and visual description of intellectual and emotional functions. The objective of Basic Design Education is to acquire visual susceptibility. Visual susceptibility is the skill of an individual to define a vision beyond a “visual taste” that could be useful when designing a product or a space and transform it into a product. Conventional design education is structured based on instruction of elements and principles that construct a visual composition. Within the framework of the most familiar basic design education process, the aim is to teach the integrity of elements such as point, line and color and the design principles such as repetition, dominance, balance, contrast and harmony that combine these elements in a composition to create an order (Alpak et al. 2017; Thiel 1981; Wender and Roger 1995; Wong 1993).

It is one of the most challenging courses for students during the first years of university education aims intuitive teaching methods are used in the Basic Design course (Aydınlı, 1996). Several authors (Alpak et al. 2017; Cross 1999; Çubukçu and Gökçen Dündar 2007; Denel 1998; Hejduk 1989) stated that many students experience problems in the design process and about creativity. This course entails an intangible world consisting of lines, surfaces, volumes, colors and texts which are quite foreign to the students who are accustomed to working with written texts and formulas (Günay 2007). The objective is to make students think and develop ideas (Doğan 2009; Denel 1998). Thus, the course speaks an abstract language when compared to other classes. In the process of transforming the information obtained from the tangible world into an intangible visual narrative, the visual perception and thinking ability of the student develop (Tekel et al. 2015).

In brief, basic design course is a workshop that aims to develop students’

- Intangible thinking and expression skills
- Basic design skills and a design language and design skills that are suitable for developing a visual culture,
- Ability to reassess their environment by abstraction and conceptualization, and
- Skills to create designs or organizations by blending, organizing or changing concepts such as shapes, forms, colors, textures, patterns, material, scale and spaces.

Studies carried out during the semester concentrates on developing the ability to understand and relate design relationships. But design is an activity conducted based on human needs and for humans. Thus, the design activity is primarily expected to be vital and functional, in other words it is expected to contribute to productivity. In that sense, the susceptibility that design education aims is of social significance. Because the designer in fact describes the lives of the people and the society. Therefore, at the end of the abstract process in the basic design course, it is important to create a tangible spatial construct that responds to human needs.

In the present study, the process, in-semester and final products of the Basic Design course given at Landscape Architecture Department in Karadeniz Technical University (KTU) were discussed. In this process, a tangible subject in which the space is included in the design is given as

a final project. In the study, the tangible products designed during the semester and the finals and the process of transformation from the intangible to the tangible were investigated.

Methodology

Stage I. The material of the study included the student projects produced during the semester and finals in the context of "Basic Design (4 + 4)" course for freshmen in the Landscape Architecture Department at KTU (Figure 1). The Basic Design course in KTÜ Landscape Architecture Department starts within the intellectual ground based on intangible elements and concepts and ends with the design of spatial construct that caters human needs. In this stage, the transition process from the intangible to tangible that is conducted during the whole semester was explained and the applications were examined.

Stage II – The Survey. At the end of the semester, a survey on student achievements was conducted with the students. This was the second stage of the study. The questionnaire was designed to discover the level of the students on abstract concept knowledge, on translation of intangible to tangible, design concepts, and associating the design concepts with spatial construct, and to determine the effects of the design process on learning. The students were asked to score using a 5-point Likert scale that allowed the following responses: 1 (very little), 2 (little), 3 (medium), 4 (good), and 5 (very good).

Results and Discussion

Stage I Findings. In each class during the semester, the abstract design concept problems related to the weekly syllabus (line, direction, form, dimension, value, texture, color, repetition, harmony, contrast, unity, dominance, balance) were analyzed by following a path that connects two-dimensional black and white techniques to the use of color and three-dimensional expression techniques (Figure 2). At the end of the semester, based on the learned design elements and principles, the students were asked to design a park in a scale of 1/200 by constructing interrelated spaces that respond to user needs and activities.



Figure 1. In-semester application samples

This final phase is not a brief process, but a process that is expressed with a model by working on it for weeks. In this process, unlike the in-semester applications, the final product

(model) that contains the tangible spatial construct to meet human needs is obtained. This product was the main material of the present study. Since transition from the intangible to tangible is a challenging and powerful proves, the longest timeframe was reserved for this last stage. The final product was constructed accompanied with continuous critics during the last 4 weeks, while the semester applications were created in a single class. At this stage, students are asked to solve sitting spaces, activity areas such as show spaces, the transportation, entrances and the topography and to create an original formal construct. The final week is reserved for the completion of the final model to be submitted by the student after approval of the lecturer.



Figure 2. Workshop studies

In this section, applications related to in-semester problems (Table 1) and selected 2 final models are evaluated and the process of transition from intangible to tangible is examined (Figure 3).

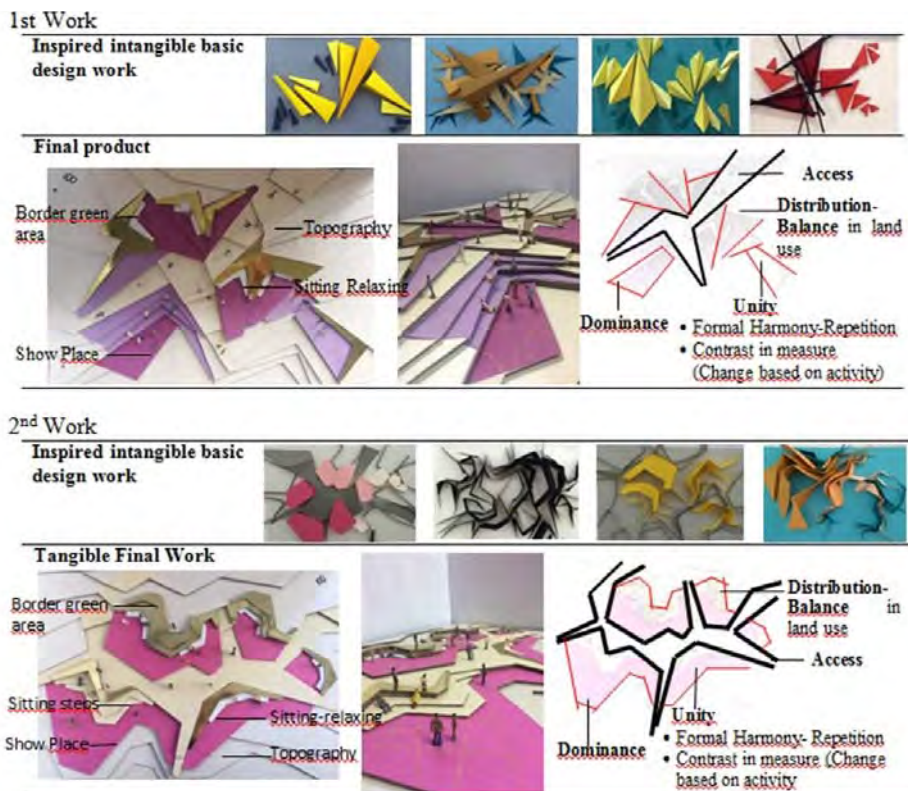
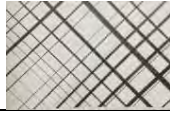














Figure 3. Examination of final projects

Table 1. Problems and sample assignments

| PROBLEMS | TOPIC | ASSIGNMENT |
|--|-------------------------------|---|
| 1. Spread and organize the given elements inside your work area in the direction you want so that the harmony and contrast between the created form are established based on your approach to the form. | Line |  |
| 2. Spread and organize the given elements inside your work area in the direction you want so that there are contrast (opposing) conditions between the forms that would be formed by the intersection of lines in your formal approach. | Harmony Contrast |  |
| 3. Design the given elements (design elements) in your work area so that the design element or elements (line, direction, form, measure) that you utilized in your formal approach reflect only the soft texture property of the psychological properties of texture in the whole work area. | Soft Texture |  |
| 4. Design the given elements (design elements) in your work area so that the design element or elements (line, direction, form, measure) that you utilized in your formal approach reflect only the hard rough texture property of the psychological properties of texture in the whole work area. | Rough Texture |  |
| 5. Organize the colors you would apply on any number and measure of forms you would create in your work area so that the harmony and contrast between the cold and warm colors could be perceived in conjunction on the whole design in your formal approach. | Warm Cold |  |
| 6. Organize the figures that you would create by paying attention to color and texture properties so that figure expressions would be perceived as powerful energy areas (active areas) based on figure – ground relationship and ground expressions would be perceived as low energy areas (passive areas) remaining from figure expressions. | Form Ground |  |
| 7. Organize the forms in the design that you would create based on figure – ground relationship and the color and texture properties of your area so that the whole design on your work area would be incorporated through overlapping method, one of the expressions of depth | Overlapping |  |
| 8. Organize the forms in the design that you would create based on figure – ground relationship and the color and texture properties of your area so that the whole design on your work area would be incorporated through transparency method, one of the expressions of depth | Transparency |  |
| 9. Organize the forms in the design that you would create based on figure – ground relationship and the color and texture properties of your area so that the whole design on your work area would be incorporated through primitive measure scoring method, one of the expressions of depth | Peimitive Measure |  |
| 10. Organize your work area based on the color and texture properties of the area using the whole area so that ground expressions would be perceived as passive expressions remaining from figure expressions, while figure expressions are provided by effective environment. | Effective Environment |  |
| 11. Assess the characteristics of your work area and the design elements (form-measure, direction, color, texture, value) that you would design in your work area based on harmony and contrast so that design principle of axial hierarchy is maintained in the organization you would design on at least two axes. | Hierarchy |  |
| 12. Create a design by organizing the selected elements or units based on specific design principles and using the whole work area so that a unity and thus a formal balance is maintained through transition principle in your formal approach. | Transition |  |
| 13. Create various spaces by combining selected plane elements based on specific design principles. Create a design in the resulting three dimensional system so that the organization of the obtained spaces with various characters based on design principles would provide a balance, dominance and unity in your formal approach. | Dominance Unity Balance |  |

Survey Findings

At this stage, the χ^2 test was performed using SPSS (v. 23.0) to determine whether the responses were significant. The results of χ^2 tests demonstrated that all categories were statistically significant.

Findings on Learning of Intangible Concepts. The frequencies of the responses to the question posed to understand how much the students learned the intangible concepts are presented in Table 2. Based on the results, students learned intangible concepts at a "good" level ($\chi^2 = 22.959^a$, 3df, $p < 0.01$)

Table 2. Frequency values related to the question "how well did you learn the intangible concepts?" (Question 1)

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------|-----------|---------|---------------|--------------------|
| Low | 6 | 8,1 | 8,2 | 8,2 |
| Medium | 12 | 16,2 | 16,4 | 24,7 |
| Good | 23 | 31,1 | 31,5 | 56,2 |
| Very good | 32 | 43,2 | 43,8 | 100,0 |
| Total | 73 | 98,6 | 100,0 | |

Findings on the Process of Transition from Intangible to Tangible

The frequencies of the responses to the question posed to understand the students' level of achievement on the transition from intangible concepts to tangible spatial construct are presented in Table 3. Based the results, students were successful at a "moderate" level in the process of transition from intangible to tangible ($\chi^2 = 32.411b$, 4df, $p < 0.01$). Since this was a hard to comprehend concept which needs to be learned through experience, the learning level was medium within the context of the course; the level would improve as the students would attend further project classes and their design experiences would increase.

Table 3. Frequency values related to the question "How well did you succeed in transition from intangible to tangible?" (Question 2)

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------|-----------|---------|---------------|--------------------|
| Very Low | 9 | 12,2 | 12,3 | 12,3 |
| Low | 34 | 45,9 | 46,6 | 58,9 |
| Medium | 10 | 13,5 | 13,7 | 72,6 |
| Good | 11 | 14,9 | 15,1 | 87,7 |
| Very good | 9 | 12,2 | 12,3 | 100,0 |
| Total | 73 | 98,6 | 100,0 | |

Findings on the Association of Design Concepts and Spatial Construct

The frequencies of the responses to the question posed to understand how much the students learned to construct the association between design concepts and the space are presented in Table 4. Based on the results, the students learned the concept-space relationship at "moderate" level ($\chi^2 = 15.288b$, 4df, $p < 0.01$). Since this was a hard to comprehend concept which needs to be learned through experience, the learning level was medium within the context of the course; the level would

improve as the students would attend further project classes and their design experiences would increase.

Table 4. Frequency values related to the question “how well did you learn to construct the relationship between design concepts and the space?” (Question 3)

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------|-----------|---------|---------------|--------------------|
| Very Low | 8 | 10,8 | 11,0 | 11,0 |
| Low | 8 | 10,8 | 11,0 | 21,9 |
| Medium | 12 | 16,2 | 16,4 | 38,4 |
| Good | 24 | 32,4 | 32,9 | 71,2 |
| Very good | 21 | 28,4 | 28,8 | 100,0 |
| Total | 73 | 98,6 | 100,0 | |

Findings on the Instructiveness of the Course

The frequencies of the responses given to the question posed to understand whether the basic design course was generally instructive are presented in Table 5. Based on the results, the students considered the course instructive at a "good" level ($\chi^2 = 22.712^c$, 2df, $p < 0.01$).

Table 5. Frequency values related to the question “how instructive did you find the course?” (Question 4)

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------|-----------|---------|---------------|--------------------|
| Medium | 9 | 12,2 | 12,3 | 12,3 |
| Good | 22 | 29,7 | 30,1 | 42,5 |
| Very good | 42 | 56,8 | 57,5 | 100,0 |
| Total | 73 | 98,6 | 100,0 | |

Comparison of All Questions

T-test was conducted to assess whether the differences between the responses given to the questions were statistically significant. It was determined that the students found the course instructive at the highest level, and they learned the abstract concepts at a good level. They experienced difficulties when associating the concepts and spatial construct, and it was determined that they experienced the most difficulty in transition to tangible from intangible. Conducted analyses demonstrated that the differences between the responses were significant for each question ($p < 0.01$): the mean and standard deviation values for each question and the T-test results are presented in Table 6 and the mean values are given in Figure 4.

Table 6. Mean and standard deviation figures and t-test values for the questions

| | t | df | Std. Deviation | Mean Difference |
|------------|--------|----|----------------|-----------------|
| Question1 | 36,365 | 72 | ,966 | 4,110 |
| Question 2 | 18,580 | 72 | 1,235 | 2,685 |
| Question 3 | 23,293 | 72 | 1,311 | 3,575 |
| Question 4 | 53,733 | 72 | ,708 | 4,452 |

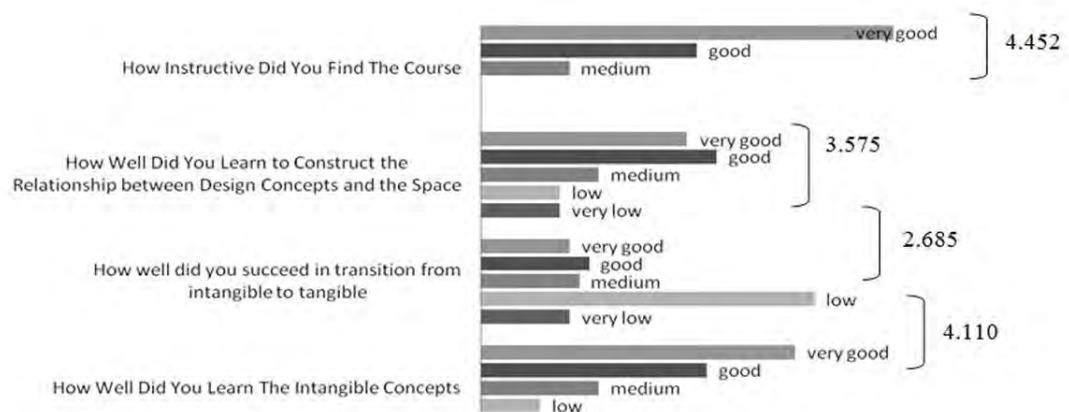


Figure 4. Comparison of means for the questions

The education process in the discipline of the Landscape Architecture that aims to create spaces that meet the needs and requirements of users through specific design criteria is still a topic of debate today. As in all disciplines that include design and creativity processes, the most important course that aims the students to acquire design skills in Landscape Architecture curriculum is the "basic design" course. In the present study, the Basic Design course process in KTU Landscape Architecture Department that covers the transformation to tangible spatial construct design from abstract concepts was examined and the educational benefits of this process were addressed. In the course;

- The students created a tangible park design that included two-three dimensional abstract applications and spatial solutions suitable for the activity based on different concepts.
- Abstract applications that they designed in each class made it easier for the students to learn basic design elements and concepts, and it was determined that they have learned these concepts at a good level.
- The students found this applied design instruction approach that included the transition from intangible to tangible instructive.
- Students experienced difficulties during the above mentioned transition process and while establishing relationships between spatial constructs and concepts.

Conclusion

The aim of the application environment provided in the course is to make students realize that the design is a process that is created with concepts, which are transformed into spaces. This goal, however, exceeds the limitations of a basic design course. The student should consider the given problem at any stage of his / her life outside the classroom (Erzen 1976). The relationship between the constructed space and design concepts could be facilitated and improved in other courses provided in the curriculum based on the interests of the students. Thus, the students could design original spatial designs that are suitable for the desired activity and meeting the user requirements using the design elements and principles.

The objective of Basic Design education is to deliver the creative ability that could arrive at the tangible from the intangible and solve the problems by a multidimensional approach and develop perceptions and senses that would facilitate learning (Dostoğlu 2003; Erzen 1976). In the present study, it was established that basic design course included the complex, challenging, abstract and

tangible processes that lead to the spatial construct that contain emotional and imaginary aspects concurrently.

As a result, it is necessary to create original programs, to introduce students to contemporary applications, and to follow an applied education approach that includes intangible and tangible concepts that put the ideas of the students first in Basic Design education.

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