Evaluating the resulting products with the use of basic design elements and principles

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Abstract

The basic design course is carried out in most institutions providing design education regardless of the area. The goal of this training process is to introduce students to the design elements and principles and to carry out intellectual activities such as observation, perception, impression, experience, research, memory, evaluation, the emergence of creativity and the end with the product. The student is expected to gain competencies such as gaining a different perspective and freedom of expression by communicating with the field and using different materials with new meanings. During the lesson, the students get acquainted with a workplace (studio space) that they are not familiar with. It is aimed that students create original works with different materials and expression techniques, sometimes by doing individual and sometimes group works. It is the first time that the student encounters with the concept of design, observing the social–physical environment from a different perspective, discovering and developing the ability to produce forms. In this study, the experiences of two-dimensional and three-dimensional outcome products shared by the Biruni University Interior Architecture and Environmental Design Department's first-year students in the 'Basic Design I' course, which transfer the basic design elements and principles they learned during the semester to the final applications, are presented.

Keywords: Basic design, design, studio space, experience, creativity.

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1. Introduction

The basic design education course is a course carried out in a very large part of the higher education institutions providing design education, in the first year of the education process, regardless of the area. This process begins with a study system in which the student discovers his/her creative identity; It is a different experience that includes a series of thought processes such as visual, auditory, getting ideas, understanding, perception and impression.

As a basic design concept, Bauhaus was born in the form of a discipline that aims to bring students' level of readiness to a certain point, help students to recognise their personal characteristics, control their judgment and free them from prejudices (Seylan, 2019).

Basic design education is still being applied in the world with different names such as 'Visual Design, Foundation Design, Applied Design, Introduction Design, Gestaltung Lehre, Formunt Gestalt, Designo Communicatione' (Gurer, 1999).

Basic design is a course based on research, observation and experiment. Concepts such as basic education items and principles given in the course content are used by students with different expression techniques and the use of materials to produce original outcome products (Figure 1).

Figure 1. Biruni University basic design studio, student group studies.
Source: Tuba Terece Archive (2019 and 2020)

The aim of the basic design course is to introduce the student with the problem, develop analytical analysis in solutions, divergence (divergent) thinking, intuitive approach and concentration ability for solving problems, develop original methods in creative problem solving and grasp the way he processes his own affective and cognitive processes. The students will be able to adapt their solutions for the problems they encounter in this process to other problems (to make analogies), to develop new experiments, to produce their own realisation knowledge (performative knowledge) depending on the experiments they have developed, to be able to develop different and new solutions for each new problem and to produce multiple solutions, which constitutes the characteristics of the students (Seylan, 2019).

Students should be encouraged to try freeways of problem solving open to creative thinking, such as subjective freedom of thought, risk entry, disconnected leaps in thinking, simultaneous development of ideas and openness to new interpretations (Akdeniz & Aksel, 1989).

Basic design education has been centred on vision since its century-old history, has tried to systematise the existence of a visual language and has developed its methods accordingly. This visual and psychological language created with the dimensions of art education, learnability and trainability

has been used as a tool in understanding art and creating an infrastructure for creative artistic activities (Seylan, 2019).

2. The importance of basic design studios

Along with the changes in the social, cultural, environmental, economic and technological fields in the world, different understandings and techniques have emerged in design education. This holistic working process, which encourages students to use their intellectual activities such as perception, monitoring, observation, research, visual note taking, creating, informing, thinking, generating ideas and criticising, enables the development of new strategies and tactics based on learning rather than the teaching it has provided.

Studios, which are the centres where all sensory and intellectual practices and design language related to design performance are taught, have to catch the change required by the age. This inevitable need for change and renewal makes design methods and therefore design studios constantly questioned. Therefore, the design studios that form the backbone of the design education are the areas most affected by the changes in design education in the historical process. Design studios have undergone many changes in the historical process until they reach today's education perceptive (Onur & Zorlu, 2017).

Studio space, in the design education process, is an experience environment where the student meets with a different working order that he is not familiar with and reveals his perceptual values and different ways of thinking. In addition to teaching the subjects based on traditional teaching, design education, in particular, is focused on enhancing students' creativity and gaining nonverbal knowledge as a source of skill-based actions (Hodgkin, 1985). The students get to know the concept of design using different materials and expression techniques and create original result works, sometimes by doing individual or group work in the studio environment. By showing students their creative strength in the studio space, the students acquire the ability to express and develop their observations, knowledge, impressions and emotions through the art education.

The design studio is an ideal learning environment, and experience in studio education is a valuable guide. The studio system consists of a system built on the basis of expressiveness activity (Shaffer, 2002).

The design studio is not only the way that all kinds of information are entered, but it is a structure that changes with the previous experiences, way of thinking and view of events and enriches with discussions and interactions. Therefore, it is a black hole in which great energy can be created such that the design input cannot be controlled and the output, is how the design is formed, is not clear (Yurekli & Yurekli, 2002).

In the studio spaces where design education is given, the educators, together with the change process, started to develop different methods by questioning their thoughts: 'How can we teach students better?' and 'How can students learn better?'. Thus, the student, the learning individual, in the eyes of the educator, has undertaken an active role model that is open to development, question, criticise, interpret and research.

In today's perceptive, it is not enough that the output of the design activity in the studio is only a good design product, the important thing is not only to design but also to give a way of behaviour about how the design is done. In this sense, the questions such as 'what is design education, how is it given and how it should be given' become increasingly important in today's design schools (Aridag, 2005).

3. Scope of studio work

There are many different definitions and approaches regarding the concept of design. According to many researchers, design is a problem-solving process; according to some researchers, it is decision-making, and for others, it is a trial-and-error process. However, in its most basic definition, designing is a plan or something that comes to life in the mind to form, sketch or produce to make sketches—A mental project or scheme where the steps that prepare a result are laid out (Bayazit, 1994).

Design means to develop and construct a thought, an action and a concept in mind for realisation. The basic design studio is the study place where this thought process is transferred to students and the imagined imagination is turned into a design.

In design education, students are taught the shortest expression methods by drawing the profile of the teacher and the learner. However, different theories and methods started to be applied with the change of studio spaces in time. In this way, a creative education process has been developed where components such as observation, research, recognition and evaluation are at the forefront.

The purpose of developing a different learning and teaching strategy in the studio environment is to motivate the ability to develop flexible information structures by integrating experiential knowledge with conceptual knowledge instead of precise knowledge, to make them aware of the transitions between learning and knowing, and to develop the ability to interpret and understand. When the priorities of education are combined at this point, the concepts that are discovered and captured by living, especially for those who are new to architectural education, are discussed before the forecasts turn into knowledge, and awareness is gained on how they can change according to their context. By contrast and inverting, they can explore the gap between thinking and possibilities and limitations (Aydinli, Eren, Erkok & Sonmez, 2004).

Within the scope of this article, the products of 40 students who took the 'Basic Design I' course with Biruni University's Interior Architecture and Environmental Design Department, 2019–2020 academic year, fall semester, were handled by two faculty members.

In this process, students were given a project with the expectation that they would use the basic education inputs and develop a final form, that is, a product. Starting from the research process, the participants ended their projects in the company of the executives after many stages such as method selection, sketching studies, developing their projects and analysis-synthesis.

3.1. Method of study

In design education, it is important to provide students with thinking and perception skills that will help them develop different perspectives by breaking the patterns they acquired before university education. Studies on creativity have shown that different abilities in the creative process such as thinking, intuition, imagination, sensation, testing and rebuilding can be developed through various techniques and design methods. For this reason, in the first year of today's design education, various methods are applied to reveal and develop the creative potentials of students coming from a memorised and repetitive education system. Many of these methods are mainly aimed at developing the creative thinking of designer candidates, but there are also methods aimed at improving students' three-dimensional thinking and form creation skills (Onur & Zorlu, 2017).

Today, it is highly intertwined in design insights such as 'designer's design, design of creative processes, innovative process design, design of design contexts, design of design teams, design of design theories and methods, design of skills and abilities, design of tasks'; we see approaches that address the design of all design processes (Whole Systems Design) as a whole and add wide meaning dimensions to the design (Seylan, 2019).

The main purpose of studio education is to develop the unique thoughts and attitudes of the designer candidates by enabling them to reveal their creativity. In this context, various methods are

used in design studios. The most common of these methods are evolutionary design method, analysis method, 9-frame grid method, block problem method, text form relation method, informal education method, criticism method, analysis method, virtual studio method and quick sketch method. 'Metaphor' method was transferred to the students in detail within the scope of the Basic Design I course, and this method was used during the emergence of the products.

'Metaphor', originally derived from the word 'metaphore' in French, means the use of other concepts in the transfer of a concept due to its similar features. If this method is summarised briefly; Within the framework of a studio model based on metaphors, the studio is based on the assumption that the student will be more likely to present a design that he/she will feel as his own property according to the analysis-synthesis method. Design is in a sense a personal journey and exploration exercise also metaphors are tools for this (Coyne, Snodgrass & Martin, 1994). The interpretation put forward through metaphors is also the interpretation of the interpreter himself (Gadamer, 1999). Metaphors are important tools for meeting the hidden aspects of the person and discovering their own world views (Lakoff & Turner, 1989).

Although the concept of metaphor is seen as the art of verbal decoration, the use of metaphor means a way of thinking and seeing that helps our understanding of the world. Studies in various fields have shown that metaphor has a formative effect on the way people think, language and science as well as on self-expression (Morgan, 1980). Although they can be an important part of our language and thought, we are not aware of them. When we realise them, we do not think deeply about the meaning they contain (Lakoff & Johnson, 1980).

The process of producing thought using metaphor is also called 'metaphoric thinking'.

Metaphoric thought process consists of several stages (Sezer, 2003).

1. An abstract phenomenon (situation, event, concept) that is meant to be explained or understood
2. A concrete (obvious) phenomenon that we use to explain this phenomenon and the linguistic expression of this phenomenon
3. Special balances (similarities) established (fictionalised) between these two facts

According to this process, first of all, a case, situation and concept will be analysed. This phenomenon, situation or concept must have a depth and scope suitable for metaphoric analysis. This stage is determined by the researcher or authorised person who will conduct the research. The second stage is about the individuals participating in the research process. Here, the depth, width and richness that individuals have about the phenomenon, situation or concept that is desired to produce metaphor will be determinative. The quality of the metaphors produced is related to this level. In the third stage, the reason why this metaphor was chosen is explained by the participants in the research process and the reasons for the special equivalence established in a short but in-depth context are stated (Eraslan, 2011).

Lakoff and Turner define the concept of metaphor, revealing the hidden aspects of individuals and as a journey into the inner worlds of individuals (Lakoff & Turner, 1989).

In a studio model based on metaphors, it is assumed that it will be higher to reveal a design that the student will feel as his essence than the analysis–synthesis method. Design is in a sense a personal journey and exploration exercise (Coyne et al., 1994). Metaphors are tools for this. The interpretation put forward through metaphors also interprets the interpreter himself (Gadamer, 1999).

3.2. Purpose of the study

Itten, who is the first creator and practitioner of the basic design course, talks about three tasks of this course after completing the 'Basic Design' course:

1. Let the creative powers of the students free: Thus, his own perceptions and experiences enabled the students to lead their main works. Gradually liberating students from dead traditions and encouraging them for their own work.
2. Facilitating students' career choices: Here, with the help of material and texture studies, every student would find the material to work within a short time, but for the shortcomings in basic skills, more practice could be done.
3. To give students the basic design principles for their future careers, colour and form laws opened the objective world to students. Studies involving objective and subjective problems of form and colour were integrated with many methods in the course.

The systematic and objectives of Itten's basic design lesson can be summarised under the headings of providing a motivation to free students from prejudices, preparing the infrastructure in the selection of tools and materials, and providing theoretical information about the field for an objective perspective (Seylan, 2019).

In consideration of these basic principles that Itten has applied for the basic design course, on the project chosen within the scope of Biruni University's Interior Architecture and Environmental Design Department, 2019–2020 academic year fall semester, 'Basic Design I' course, students were asked to program a process that takes creative results to the product, using the concepts they have experienced throughout the period.

Using the elements and principles learned during the course of basic design I, it was given to the students as the end of term project subject to create a composition in which they used the concepts they experienced together. The most important goals of the study are the perception of the achievement gained throughout the semester in the studio environment and the relationship between the interior design in the future. Another aim of the project is to develop the sketches they started in line and to gain the ability to develop ideas and methods about the form creation process. In addition to these two main objectives, the following subtitles were also targeted during the basic education project (Figure 2):

• Understanding the relationship between basic education elements and principles with design by associating the concepts they learned with the basic education process with the design process.
• Plan the design process and form the project development stages.
• Developing flexible thinking and evaluation skills with different perspectives.
• Using the examples to produce solutions.
• Development of abstract thinking skills.
• Acquisition of perception and ability to convey their thoughts correctly.
• To be predisposed to individual and group works.
• Determination of design methods to reveal the final product.
• By doing research, they develop their creativity.
• To be able to evaluate information and reinterpret using their creativity.
• They transform the dots, lines and various geometric forms into patterns by interpreting them with a different perspective.
• Creating forms by choosing the right materials during the two-dimensional pattern development process.
• Bringing together the materials meticulously and creating a creative composition.
• To be able to interpret the existing two-dimensional pattern studies in the third dimension.
• To be able to perceive the parts they have created separately as a whole.
• Developing their abilities such as forming forms, applying colours and creating compositions.

Figure 2. Biruni University basic design studio, student group studies.
Source: Tuba Terece Archive (2019 and 2020)

3.3. The Process of the study

Basic Design Studio study, in the Fall Term of 2019–2020, within the scope of 'Basic Design I' course, students were asked to come up with an original result product using the basic design elements and principles conceptually experienced: Students, 50 × 70 cm, in the dimensions of the layout, 20x20 cm, by creating six areas of their size, evaluated each frame as a gradual developing fiction. The project process consists of six areas and three phases.

This process is a six-stage project development process that is intertwined and successive within the framework of the main objectives of the study: data collection, analysis, synthesis, pattern creation and form development stages.

In the first stage, students were given the subject of the project and asked to do literature studies on the subject in the next lesson. In the design development based on the transformation in form development, the metaphor method was evaluated and the method was comprehended correctly. In the next stage, students were expected to create sketches based on the information they obtained and the examples shown. In the third, in the last stage, they were asked to progress in a total of six fields and complete them with a final product.

3.3.1. The first stage; linear searches with sketch method

In the first two frames, students made sketches using points, lines and simple geometric shapes. They clarified the linear sketch they created with pencil in the second frame and started searching for patterns by highlighting them with felt-tip pens.

Figure 3. Biruni University basic design studio, student group studies.
Source: Tuba Terece Archive (2019 and 2020)

3.3.2. The second stage; pattern exercises and form creation

In the third and fourth frames, the students highlighted the two-dimensional pattern that emerged starting with the sketching and painted it using gouache technique. In this way, students used different expression techniques in the drawing, and they created using pencil, marker pen and gouache painting techniques together and enriched their two-dimensional drawings.

3.3.3. The third stage; the transformation of forms into three-dimensional products

First, in the fifth frame, the students searched for a form that carried the pattern they obtained from two dimensions to three dimensions using auxiliary materials (such as coloured cardboard, various rods, metal elements and rope), and in the last frame, they obtained a three-dimensional product. Thus, they ended the process, which they started with simple concepts such as point and line, by obtaining a three-dimensional conceptual form (Figures 3 and 4).
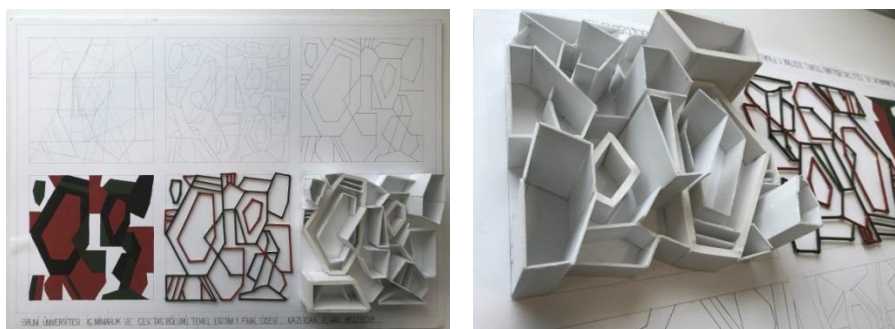

Figure 4. Biruni University basic design studio, student studies. Source: Tuba Terece Archive (2019 and 2020)

The study process, the stages of which are specified, was carried out in line with the criteria summarised below and the study was terminated in this context.

- Each of the stages has been developed in the light of basic design principles (such as void-fullness, balance-rhythm, etc.) using perception theories.
- Transition to mass and volumetric forms with abstraction studies in two-dimensional formal sketching methods.
- Studies to associate and develop the content of the stages

3.4. The result of the study

The studies that emerged as a basic design studio project have developed as a gradual study in which students acquire forms starting from the simplest basic education concepts, resulting in three dimensions. A total of 40 students created different studies under the supervision of two faculty members, and as a result, original studies that students proceed with their own inner guidance and intuition with the metaphor method were obtained (Figures 5–7).
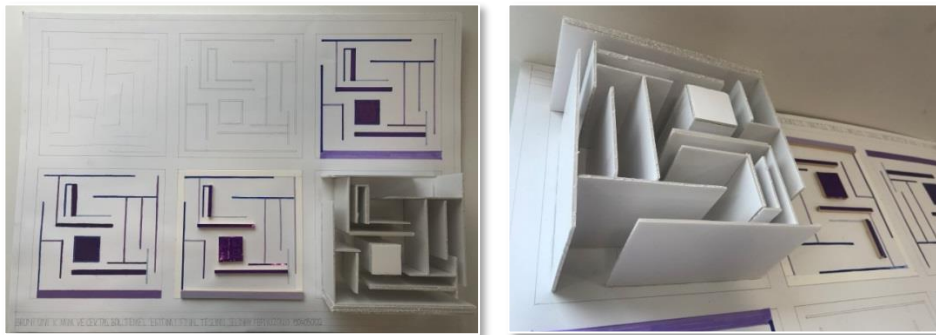

Figure 5. Biruni University basic design studio, student projects. Source: Tuba Terece Archive (2019 and 2020)
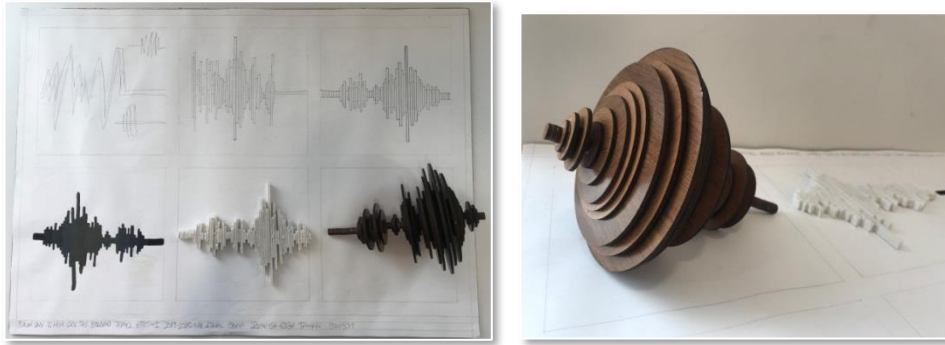
Figure 6. Biruni University basic design studio, student projects. Source: Tuba Terece Archive (2019 and 2020)

Figure 7. Biruni University basic design studio, student projects. Source: Tuba Terece Archive (2019 and 2020)

In the studio work, with the metaphor method, the students transformed their work, which they started with simple lines, into three-dimensional forms using their thinking skills and creativity. (Figures 8–10).

In the experimental study applied within the scope of the project, analysis searches were made depending on the basic principles and rules. In this direction, studies were carried out to create a three-dimensional form, surface and even space in the light of geometric arrangements obtained by abstraction.

Figure 8. Biruni University basic design studio, student projects. Source: Tuba Terece Archive (2019 and 2020)

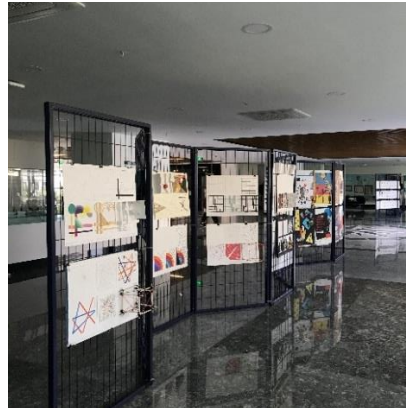**Figure 9. Biruni University basic design studio, student projects**

Figure 10. Biruni University basic design studio, student projects. Source: Tuba Terece Archive (2019 and 2020)

The resulting works were exhibited at the end of the term department exhibition. Thus, students had the opportunity to compare and evaluate their work with other studies (Figures 11–15).
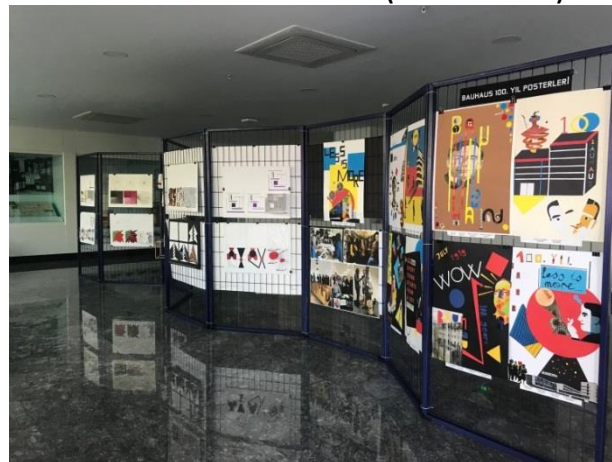

**Figure 11. Biruni University basic design studio, student project works.
Source: Tuba Terece Archive (2019 and 2020)**

Figure 12. Biruni University basic design studio, student project works, end-of-term exhibition.
Source: Tuba Terece Archive (2019 and 2020)

Figure 13. Biruni University basic design studio, student project works, end-of-term exhibition.
Source: Tuba Terece Archive (2019 and 2020)

Figure 14. Biruni University basic design studio, student project works, end-of-term exhibition.
Source: Tuba Terece Archive (2019 and 2020)

4. Conclusion and evaluation

Summarising the benefits of basic design education:

1. Since education is carried out not through teachings but through principles, it becomes easier to approach every subject through principles. Time is gained in education and training.
2. Aesthetic values are not evaluated at two opposite ends, such as beautiful or not, but the values and defects of a design are dealt with in different aspects, and the value of the solution is linked to more objective criteria by distinguishing one by one where is good and what is wrong.
3. The concepts and words related to the basic design create a common language to be understood with other artists from other branches of art.
4. With the language of criticism, the designer can correct his mistakes by criticising his own work. As a result, he can confidently defend his work.
5. With this language, the works can also be criticised according to objective principles.
6. With the different examples given, it becomes easier for architects to better get along with other artists and to collaborate with each other (Gungor, 2016)

In the light of the main outputs of 'Basic Design Education' mentioned above, the Biruni University Department of Interior Architecture and Environmental Design, 2019–2020 academic fall term 'Basic Design I' course, the experiences of the students and the results obtained within the scope of the studio work can be listed as follows:

- During the basic design studio, the students had their first experiences in design and original creativity and learned about design methods by recognising the concepts related to design.
- Students have gained experience in concentrating on a topic, researching, interpreting, and gradually developing a work.
- Students are predisposed to individual and group work.
- The skills of abstract thinking, perception and transfer have been achieved.
- In the future, they experienced the concepts such as creating forms, developing ideas and methods, managing the organisation of space-fullness, maintaining colour balance, maintaining line and form integrity, ratio-proportion, which they will work in interior design project studios in the early period, with the basic education project they developed.
- During the project process, the students gained the ability to think in two and three dimensions, and gained the ability to move their designs from the second dimension to the third dimension as a result of the intellectual activities they set up.
- They have enriched their creative activities with the use of different narrative techniques and original materials.
- In the studio space, in a pluralistic environment, students who are in the first year of their design education have discovered their creative potential and gained the ability to observe, explore and formulate the social and physical environment from a different perspective
- During the project process, students performed a study that resulted in a three-dimensional product by combining actions such as observation, perception, impression, experiencing, research, association, memory, knowledge, evaluation and interpretation with their creativity.

Within the scope of design education, design principles and elements are examined in terms of the relations between the subjects and principles given during the term; by evaluating alternative material suggestions, application techniques and methods to be used, visual expression forms are continuously researched and developed. The results of different narrative techniques are evaluated within the course of the lesson, as a resource for the next semesters.

When the works submitted by the students at the end of the process are examined, the deficiencies have been identified in terms of the conceptual use of basic design principles and elements within the scope of the project and their effect on the stages. In the study, which needs to be developed and

completed in six stages, it was observed that some students were insufficient to establish connections between stages.

In the future, it was decided to repeat the study with different student groups and to compare and analyse new studies and previous studies. When we evaluate the outcome of the project in terms of lecture, it is revealed that the relationship between basic education elements and principles and abstraction methods should be more focused.

By forming an evaluation jury from different design disciplines, it is thought that students should be given the opportunity to present their work and this will contribute to achieve the results.

The student practices that emerged within the scope of this study were exhibited in our department exhibition held at the end of the term. Thus, the students stated that they were pleased that their products were presented within the scope of the exhibition and that this exhibition motivated them positively for new works.

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