INTRODUCTION TO ARCHITECTURAL DESIGN – FIRST TERM EXPERIENCE OF ARCHITECTURAL DESIGN EDUCATION

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1. Introduction

Architecture studio governs a visual/spatial realm. The tools used to conceptualize and produce architectural forms depend on visual communication to translate spatial forms.

In architectural education it is important for students to have sufficient fundamental visual/spatial thinking and designing skills. So visual and spatial learning is a key mechanism in the creative nature of the design studio.

Courses addressing and enhancing these skills and fundamental information about architectural production in the preliminary stages of architectural education are important. In Anadolu University's Department of Architecture the course takes place in the first semester of four year (eight semester) long education.

2. General Outlook On Architectural Design Studios

As a place of creative "doings", the architectural design studio does not fit easily within the tradition of inquiry and empirical discovery, let alone the processes of examination that obtain in other disciplines within the academy, such as law or medicine (Mewburn 2010).

Based on the "learning by doing" philosophy (Schön, 1983, 1987) the design studio is broadly accepted as an indispensible part of design part of design education. In a studio environment, students work together to benefit from exposure to many ideas and a wide range of information from peers and tutors. (Waks, 1999; Shih, Hu, Chen, 2006).

In general, as Lukman, Inrahin and Utaberta stated (2001) design studio is meant to provide students with expertise and knowledge necessary in order to produce innovative, creative and competent design solutions.

2. Introduction to architectural design I studio contents

The Introduction to Architectural Design studio is the focal point of architectural education especially for the first term-first year in The Architecture Department of The Anadolu University.

While the core of the architecture education is the architectural design studio in Anadolu University, Department of Architecture; the first architectural design studio is located in the curriculum in the third semester. As the terms –semester progressed; the complexity and contexts of the design problems are shifts and broaden. Because this studio structure, first year of architectural education in the department have an importance as a introduction to architecture, design, space …etc. to design concepts, and learning proper skills to handle them. Thus Introduction to Architectural Design studio aims to prepare students to latter phases of architectural education; focuses on teaching/giving students tools used to conceptualize and produce architectural forms depend on visual communication to translate spatial forms.

The course is given by Assoc.Prof.Dr. Berna ÜSTÜN, Res.Assist.Dr. Özlem Kandemir, M.Sc. Gülşah Doğan, B.S. Özge Güven Ulusoy to sixty-eight students.

Because the students come from a formal, analytical and passive learning environment and higher education exam systems in Turkey, one of the main goals of the studio becomes to erase the preconceived incorrect ideas about architecture, design and role of architect/designer.

While changing and adapting to be more flexible, active, creative setting and learning; we mainly aim for students to learn to look their environment with knowing eyes, assessing situations and facts, evaluating the needs of the design problems then appraise them accordingly. In order to achieve these goals, we plan the first term curriculum as a series of exercises, supported by seminars. The syllabus, which can be seen on below on Table 1, had been applied in the duration of 15 weeks, 2013-2014 Fall Semester. A number of exercises performed, seminars given, juries and arguments-discussions held in groups and as individuals.

The exercises that are performed are:

1. Urban Exploration Map
2. Dream Boxes
3. Dream Scenes
4. Personal Cubes
5. The Habitat; will be discussed below.

The seminars given by studio tutors are:

- *Introduction To Concepts Of Architectural Design; Process, Program-Design-Use, Anthropometric Dimensions, User Needs, Interactions Between Human And Environment* by Assoc. Prof. Dr. Berna Üstün.
- *Abstraction Concept And Architecture* by Res. Assist. Dr. Özlem Kandemir.
- *Form – structure – materials* by Msc.Gülşah Doğan.
- *General Introduction To Housing Concept* by Özge Güven Ulusoy.

Table 1 Course syllabus and content according to weeks through semester

SYLLABUS - CONTENT	
WEEK 1	Introduction to concepts of architectural space and definitions
WEEK 2	URBAN EXPLORATION MAP (presentation of dream boxes exercise)
WEEK 3	URBAN EXPLORATION MAP SUBMISSION *DREAM BOXES STUDIO WORK*
WEEK 3	Eid of sacrifices – holiday
WEEK 4	Anthropometric dimensions, user needs, interaction between human and environment *DREAM BOXES STUDIO WORK*
WEEK 5	Republic Day – holiday (29 October)
WEEK 6	1st mid-terms DREAM BOXES SUBMISSION
WEEK 7	**SEMINAR:** Architectural design process, program-design-use, anthropometric dimensions, user needs, interactions between human and environment BERNA ÜSTÜN *DREAM SCENES STUDIO WORK*
WEEK 8	Architectural design process, program-design-use, anthropometric dimensions, user needs, interactions between human and environment **SEMINAR:** Abstraction concept ÖZLEM KANDEMIR DREAM SCENES STUDIO WORK & SUBMISSION
WEEK 9	Architectural design process, program-design-use and structure **SEMINAR:** Form – structure – materials GÜLŞAH DOĞAN PRESENTATION OF HABITAT EXERCISE PRESENTATION OF THE PERSONAL CUBE EXERCISE
WEEK 10	Architectural design process, program-design-use and structure, general understanding of properties of physical environment factors SEMINAR: general **SEMINAR:** Introduction to housing concept ÖZGE ULUSOY THE PERSONAL CUBE EXERCISE SUBMISSION *HABITAT EXERCISE STUDIO WORK (AS IN GROUPS WITH TUTORS)*
WEEK 11	2nd mid-terms

WEEK 12	Architectural design process, program-design-use and structure, general understanding of properties of physical environment factors *HABITAT EXERCISE STUDIO WORK (AS IN GROUPS WITH TUTORS)*
WEEK 13	Architectural design process, program-design-use and structure, general understanding of properties of physical environment factors *HABITAT EXERCISE STUDIO WORK (AS IN GROUPS WITH TUTORS)*
WEEK 14	Architectural design process, program-design-use and structure, general understanding of properties of physical environment factors *HABITAT EXERCISE STUDIO WORK (AS IN GROUPS WITH TUTORS)*
WEEK 15	Finals – submissions JURY SUBMISSION OF HABITAT EXERCISE

First exercise

The first exercise was "**Urban Exploration Map**"; **the aim** was looking to urban life, environment and people as urban patterns, fabric, space and its habitants. Leading a basic path from a map to discover the components of urban space, on which trying to find the elements that defines, differentiates and identifies it.

The assignment consisted of, following given **two different routes** (Fig.2, 4) for try to define focal points (square, buildings…etc.) by both material and immaterial architectural elements then document them either by taking photos or drawing or making a movie of it. In addition to this mapping there was a simple **scavenger hunt** (Fig. 3, 5) like: finding the place or the buildings from the given focused detail photographs that are taken from the buildings on the paths. Time given for this exercise was one week.

Below there can be seen the exercise brief given to students. While the brief defines the aim and the expectations of the exercise, additional pamphlets that shows the maps of the routes and clues for the scavenger hunt.

Exercise I: Urban Exploration Map

Goal: to learn about the city of Eskişehir, the urban layers, the transformation on the urban patterns and environment, to observe the dynamics of the city and document them.

1. *Definition of environment*
   a. *Temperature / wind*
   b. *Illumination /light*
   c. *Scent / what is the smell of the environment? Is it "pleasant"*
   d. *Sound / what do you hear? Is "loud"?*
2. *Observation of "time"?*

Make an estimate about the time of the buildings that you see, try to rationalize it.

3. *How does the circulation in the pinned points have been made?*

Bicycle, pedestrians, cars etc… are the much parked cars…at what time?

4. *Are the green areas/parks around?*
   a. *What about greenery/plants/flora?*
   b. *Who uses those areas…their ages? And animals etc… according to time*
5. *What are functions of the buildings on selected pinpoints, nodes? What can you say about the patterns, or according to is there a pattern?*

Tell us these stuff with sound recordings, videos, photographs, sketches.

Points/nodes: route 1:train station/ Eti Park/ Adalar/ Halk Bank/ Tepebaşı Municipality/ Çukurçarşı/ Emek Otel- Old intercity Bus Terminal

Route 2: National Bank/ Garanti Bank/ Taşbaşı/ Hamamyolu-Sıcaksular/ Deliklitaş Ave./ Alaaddin Park/ Odunpazarı

Figure 1. Urban Exploration Map exercise brief given to students.

Figure 2. Urban exploration map exercise route 1 maps.

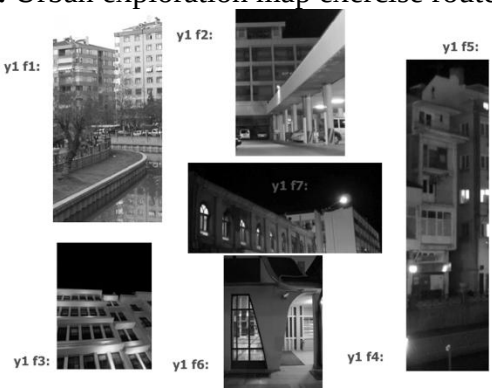


Figure 3. Urban exploration map exercise, route 1 scavenger hunt clues.

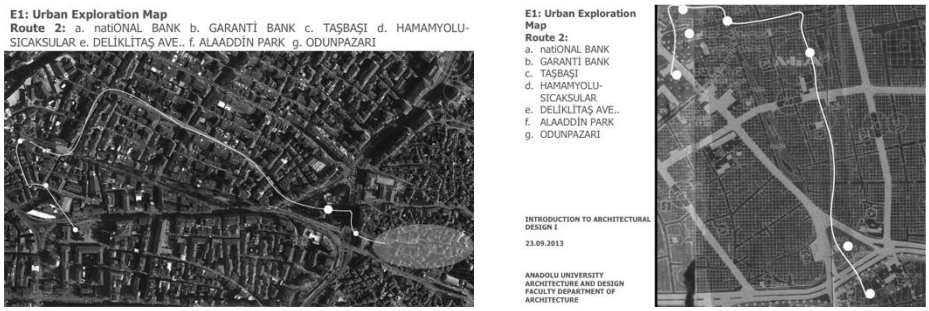


Figure 4. Urban exploration map exercise route 2 maps.

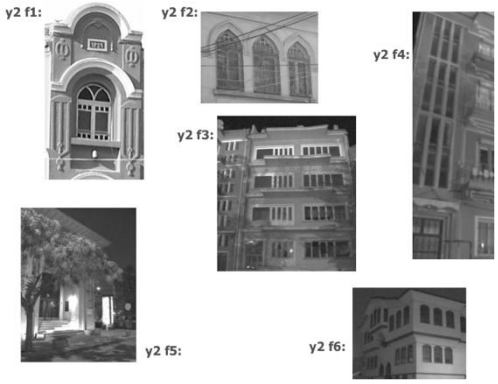


Figure 5. Urban exploration map exercise, route 2 scavenger hunt clues.

The outputs of the exercise was:

We have achieved our goals on observing spaces founding nodes and its characteristics; ***but*** they haven't able to document their findings in an architectural communicative way. Students were,

- Wrote their observations as: what are people doing, building conditions and functions, scent of the space, sounds, crowds
- Taken photographs
- Found the puzzle pieces

- But there were few sketches and few video recordings

Figure 6. Examples from the U.E.M. exercise, student works.

Second exercise

Second exercise "**Dream Boxes**" **aimed** to define an event-incident, montage it in three dimensions by scaling on defined boundaries. Without knowing what are they documenting for, we asked the students to write down three scenes from their dreams. Afterwards they built an integrated and montaged model in defined boundaries (50x50x40cm) – the Dream Box but without given scale. Duration of the exercise was 3 weeks. The brief (Fig. 7) given to students and examples (Fig.8-11) from the results can be seen below.

EXERCISE 2: DREAM BOXES

Goals: *defining a stage / an event in an environment,*
redefine and edit the environment and actions on given boundaries with three dimension.

Problem: all week keep the record of your dreams, esp. the ones you remember or effects you most.
Choose three of them
Define the space and place, the events and actors.
Who, where, when, what?

Tell us your dreams:
With proportion in a open box of 50x50x40cm.dimensions made of corrugated board
***You are a 5cm. figurine** scale other actors according to you.*

Materials:
can be different cardboards with different texture, cloths, ropes, threads, different sticks etc…

You have 3 weeks.

Figure 7. Dream Boxes exercise brief given to the students.

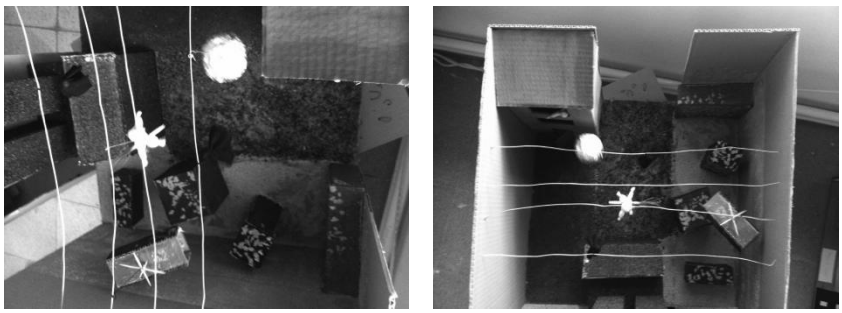


Figure 8. Dream Box exercise examples: the student walking on a tight rope, trying to escape from burglars at home.

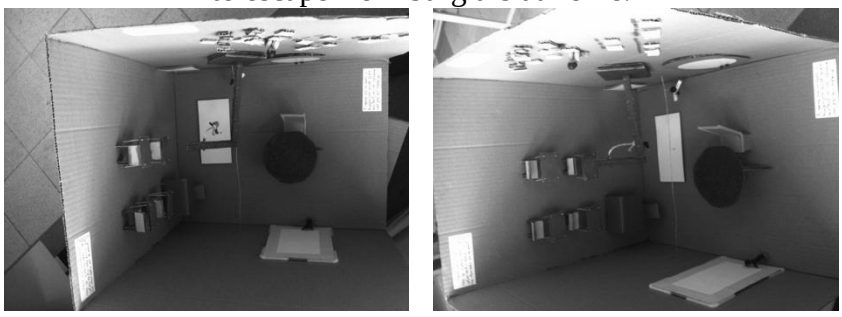


Figure 9. Dream Box exercise examples: the student is in a classroom not prepared for an exam; in the second dream in a giant's world as a tiny being.

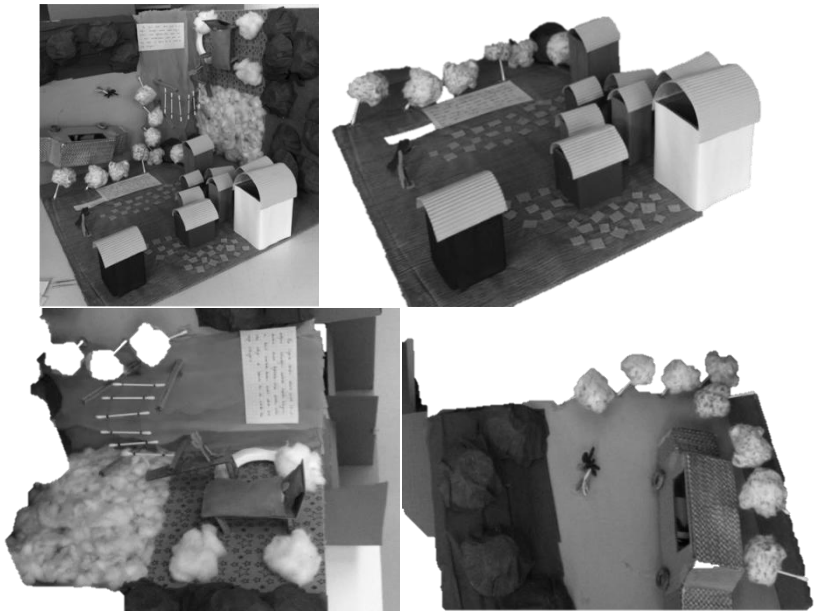


Figure 10. Dream Box exercise examples: student trying to escape from criminals with her father, there was no timeframe -she couldn't decipher if it's night or day.

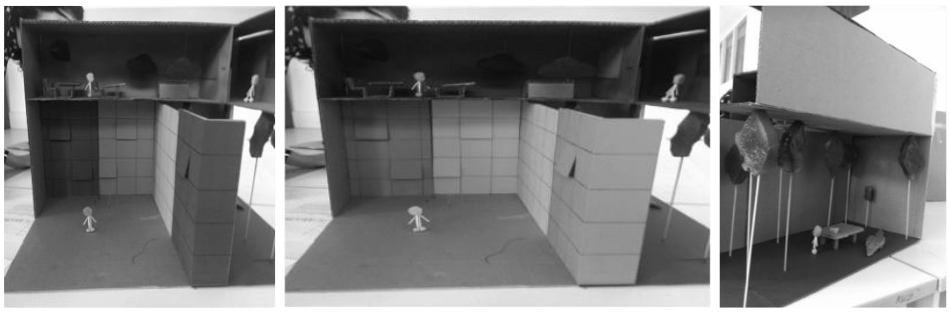


Figure 11. Dream Box exercise examples: student was lost in a large storage area, on the other face of the dream box she is deserted-lost on picnic area; on the third part she missing a very important exam on school.

Output of the exercise: Students were generally successful and creative about scenes and ways to represent them; some of the successful ones were able to the box as multi faceted and dimensional object. But there was still some scaling and material selecting problems. Nevertheless as the tutors, we also expected these problems to happen. There has been general critique held. Tutors discussed the boxes with the students in the studio, pointing out the spatial relations, materials and its properties, abstraction techniques, and gave recommendations for further exercises.

Third exercise:

The third exercise was called "**The Dream Scene**". The assignment was expected on an architectural scale in which students exist as a flexible scaled puppet that has joints and can stand-alone with the other actors of their dreams but also in a dwelling environment. The **aim** was while learning the anatomical measurements and scaling, making a basic introduction to creating an active structure and dealing with material problems. The duration of the exercise was 2 weeks. The brief (Fig. 12) and results (Fig. 13-14) can be seen below.

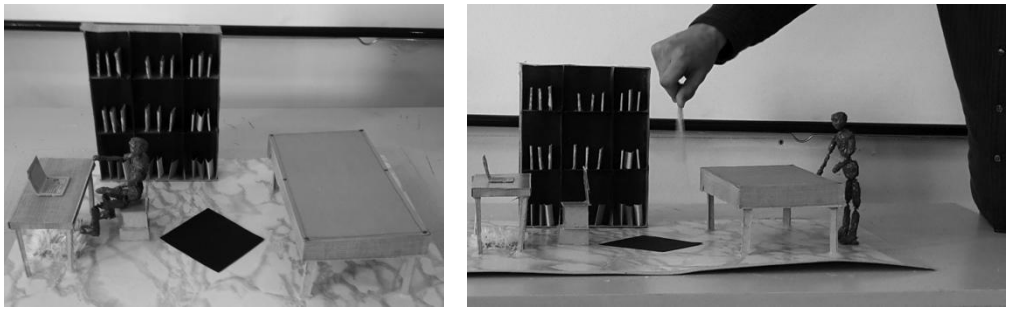
EXERCISE 3 DREAM SCENE:

Goal: *description of the actors and yourselves in a home environment with architectural scale and in three dimensions.*
Understanding anthropological dimensions and use of areas
In this dream scene the characters should be shown while they are eating, resting-sleeping, cleaning and/or working.

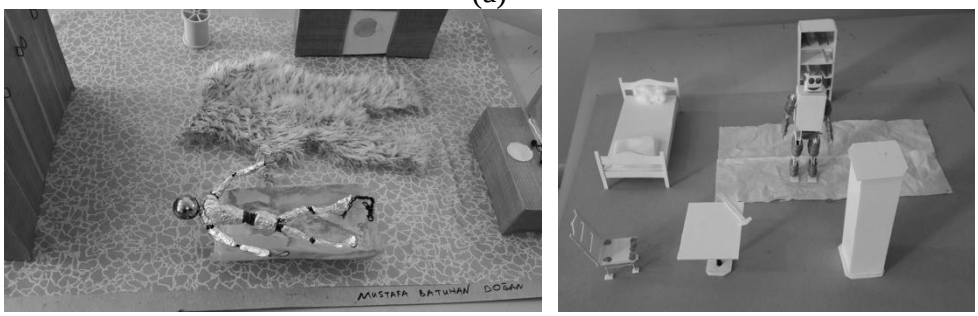
You must be a figurine which is flexible (like having joints etc…) able to stand on its own, and on scale (1/10).

Scale: ***1/10*** *base:50x70cm.*
Material suggestions: *cardboards-papers with different textures and thickness, ropes, plastic and wooden sticks, fabrics.*

Figure 12. Dream Scene exercise brief



(a)



(b) (c)

Figure 13. Dream Scene exercise examples: (a) study and billiards area, (b) bathroom washing area, (c) bedroom of an architectural student.

Outputs

The exercise was a success as a introduction for understanding anthropometric dimensions and the place of them design process and also by designing the puppet the also thought on the nature of materials and use them on their design with scale in a dwelling. But as can be seen from the examples, there are still some representation techniques problems occurred.

Scaled puppets

Students submitted successful puppets, which can stand alone and flexible. They were able to manipulate materials more and more in each exercise; observed and learned anthropometric measurements and living settlements.

Figure 14. Scaled puppets examples from the Dream Scene exercise.

Fourth Exercise

Fourth exercise - "**The Personal Cube**" was a weeklong assignment in which they designed a 125m^3 personal space to learn the standard measurements of the utilities on a dwelling. The exercise programmed with an **aim** of reinforcing the information learned through the previous exercises like use of space-anthropometric measurements…etc. also the exercise as a transitional one to finalize the term by the last exercise. The duration for the exercise was a week long.

Exercise 4 The Personal Cube
Apply your knowledge upon anthropometric and relational living area measurements on a "personal cube" dwelling
For you.
Limits: 125m^3

Figure 14. Personal Cube exercise brief given to students.

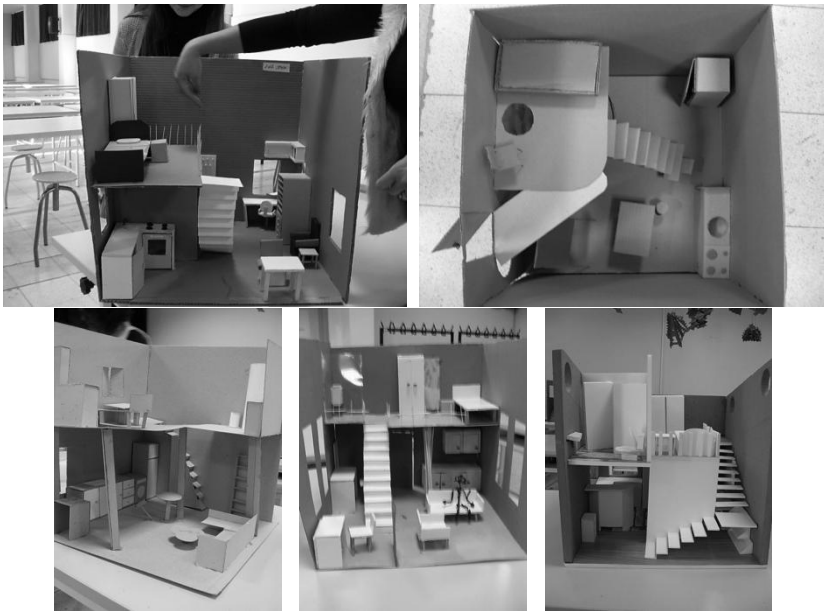


Figure 15. Personal Cube exercise models.

Output
Exercise was again discussed on the studio with the students and tutors. The notion of space, relating it with user needs was starting to be more actively given place. Still working on representation techniques and skills. Abstraction concepts were more actively discussed and given thought.

Fifth Exercise

In the final exercise "**The Habitat**", we **aimed** to direct students to research, think and learn about the new terms and concepts; then, accordingly propose a habitat – a new geography, new environment and the dwellings. While the focus was on the designed dwellings, we also equally worked on the concepts like **abstraction, elements, structure and environmental conceptual relations**. Time given to students for this exercise was 7 weeks. This exercise also differentiated from the previous ones from work order, as group tutors have guided it. Every group was average 12 students.

Final exercise: HABITAT DESIGN
You will decide geography, design area and its inhabitants
A NEW HOUSING
design is expected
Housing units limit is 250 m^2
Format: scale 1/200 layout
plans, sections and elevations scale 1/50
model 1/100 and/or 1/50

Figure 16. The Habitat exercise brief given to students.

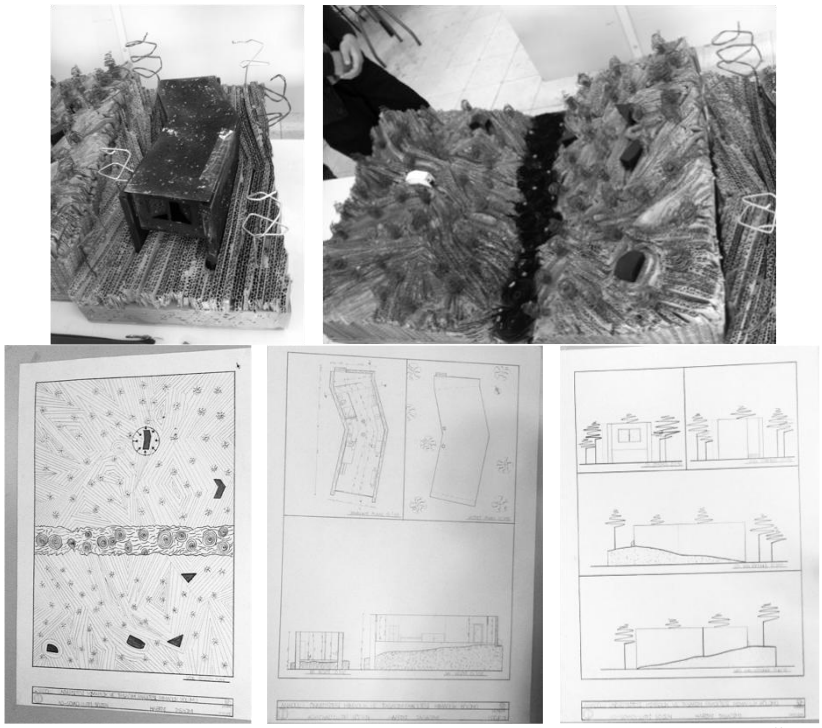


Figure 17. The Habitat exercise example from Assoc.Prof.Dr. Berna ÜSTÜN grup. Student designed a hunting lodge on a non existing landscape which also designed by himself, for a single occupant.

Figure 18. The Habitat exercise example from Res.Assist.Dr. Özlem KANDEMİR – Özge ULUSOY grup. Student designed a single dwelling for post-apocalyptic world and era. Additional to the dwelling all conditions-enviroment designed by the student.

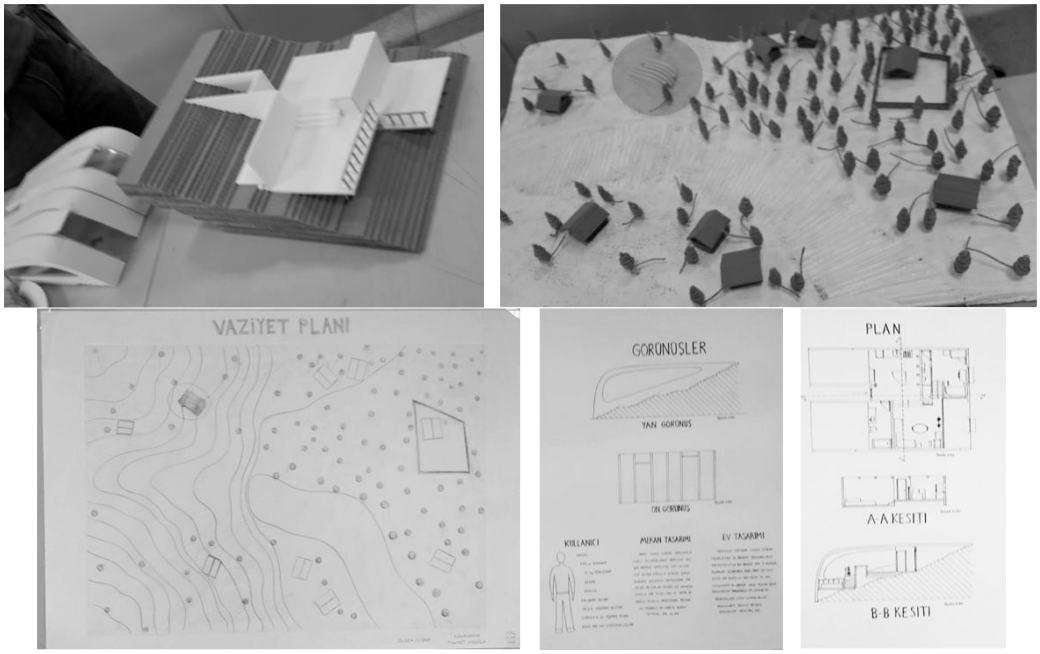


Figure 19. The Habitat exercise example from Res.Assist.Dr. Özlem KANDEMİR – Özge ULUSOY grup. Student designed a single dwelling for a botanist with its greenhouse.

Outputs

Students were able to create a physical eviroment; and design a dwelling accordingly. Most of them succesfully abstracted their designs and built their models. The concepts like structure and deconstructing one, were attampted, which is can be counted as a succes comparing the vision they have about space and design at the beginning of the term was broaden. Hopefully will be carried progressingly through their architectural education.

4. Conclusions:

During the 14-week term, as the instructors of the studio, our main goals were

- to help student to observe learn from environment then deconstruct and reflect abstract concepts and generalisations

- and later form implications of these concepts and construct their own ideas in new situations
- and experiment through their designs.

In the beginning of first year - first semester, students were not fully capable of fundamental visual/spatial thinking and designing skills and it was moderately difficult to make connections what is shown, thought, communicated and expected from students. But this process gained momentum by each exercise, thus students started more and more quickly grasp the design problems.

We started by looking to urban environment and space, to understand basic architectural elements. Then moving into theoretical grounds and synthesizing them into exercises on dwelling & housing concepts (which is also one of most difficult architectural concept).

As mentioned above it is important for students to have sufficient fundamental visual/spatial thinking and designing skills; thus giving courses addressing and enhancing these skills and fundamental information about architectural production in the preliminary stages of architectural education are important. As a way to learning these skills, the Introduction to Architectural Design I studio introduces and guides students through series of exercises, which are connected and carefully planned.

In the first semester of this two-term course, we focused housings/dwellings while on second, the continuing studio (Introduction to Architectural Design II) second semester; we focused on more spatial design problems on urban spaces.

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