

**FROM TRADITIONAL TO MODERN;  
METHODOLOGY OF NEIGHBORHOOD UNIT DESIGN**

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**ABSTRACT**

City planning can be defined basically as a decision making process with the aim of describing the inhabitable criteria between human and nature in a wide range from “generating international policies-strategy” to design surroundings of dwellings. From one perspective planning phenomenon can be defined as a guide in socio-economic development progress, or it can be defined as an art of organizing space. Consequently, every stage of planning process includes different scales and qualities of design.

From this basic approach, at Educational Program of City and Regional Planning Department at Yıldız Technical University, design phenomenon is discussed in all systems from micro (basic design) to macro (from urban design to generate strategies). At the first year of education schedule there are two basic modules. At the first academic term, the students who have knowledge of high school degree are taught basic design and graphical techniques and also taught how to examine visual perception, how to embody abstract thoughts; at the second term, the students who have already learned basic design acuirements are taught how to analyze urban textures at different socio-cultural and spatial geographies and how to practice a neighborhood unit design process. Both of the modules are supported with a design studio and a theoretical class that supports it.

The aim of this paper is; to discuss the educational methods of analyzing the urban patterns, design elements and design process of neighborhood unit relating to the first year of the education program.

In this context, the subject will be discussed within two main topics: first topic is to analyze the urban patterns and design elements. Within the aspect of this study the aim is; to make the student find the elements which determine the spatial design criteria in socio-cultural and spatial geographies and to analyze the criteria to be focused on while designing urban spaces in different geographies within the traditional accommodation principles. In other words,

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since there is not a single right approach, the aim is to create the clues for the designer to approach the subject matter with various components in mind. Second basic topic is the study of teaching stages for design process of neighborhood units (analysis, synthesis, zoning, orientation, site plan, etc.) and presentation techniques. In this study, the subject is discussed in variable scales both in macro scale conceptual approaches and in details.

The method of study is continued by the lectures, assessments and arguments with the whole class and detailed arguments at group sessions. The desired result is to provide coordination in the studies run within the whole class, an opportunity of detailed discussion of each student's study in group studies. At discussions and critics of sketches it is wanted from tutors and students to criticize about various materials (photographs, sketches, videos, Google earth visuals, etc.) to improve reading design, and opinion about rights and faults and ability of technical drawing. The aim of this method is to exclude the student from the passive role and to include learning with interactive trial and error method process.

Consequently, students who had taught basic design, within the context of design studio and the lesson that supports it, the discussion method, with the process of an interactive participation, about how to discuss the varying cultural and geographical elements at the process of designing a unit neighborhood area is tried to explain.

**Keywords:** urban pattern components, neighborhood, design principles of urban spaces, perception, interactive participation

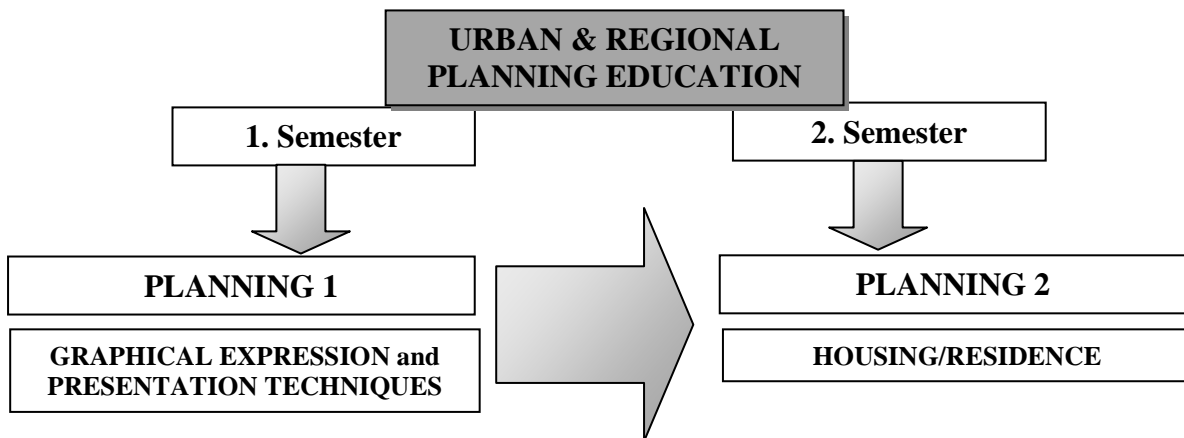
## INTRODUCTION

The Department of City and Region Planning which takes part in the Faculty of Architecture of Yıldız Technical University includes a four-year educational program. In the education program; there are eight studio studies which are supported by the theoretical and practical courses in semi annually periods. In the studio studies of the first year; the urban exterior space design principles are taken up which are based on the fundamental design process and one quarter unit. In the second and third years; the urban policies and design studies are taken up in a system from the social, economical and spatial structure analysis studies and the macro measured planning strategies to the micro-based application decisions at the basis of region and city. In the last year of the education; the experience and knowledge build-up that is formed by the student in three years are tested in the context of diploma thesis and project. In the coverage of this project, in addition to the conceptual researches, the design processes are followed in different scales based on the formation of the planning policies and carrying the policies to the place. As a result, the design training is provided in the first year of the training process and then in the subsequent processes the student is expected to carry this discipline to the studies.

In the first year of the planning education, the “**design training**” is tried to be transferred by means of two separate studio studies which are constructed on each others and the theoretical and practical courses which support these studios. In the first semester of the first class; the courses are followed as “planning 1 Studio” which is based on the “drawing techniques” and “graphic expression and presentation techniques” which is based on the “basic design and expression techniques” to the students having the secondary school knowledge and skill level and who became successful in the central system selection examination.<sup>1</sup>

In the coverage of Planning 1 Studio; the subjects are taken up as the interior space design principles, interior space exterior space relationships (parcel/structure relationship), design principles of the small neighboring unit which is composed of 8-10 residence units by means of the writing, technical painting, free drawing, two-dimension (scale, projection, section, silhouette studies) and three-dimension (perspective, model studies) expression techniques.

In the coverage of Graphical Expression and Presentation Techniques; visual perception examination, design elements (point, drawing, pattern, scale, form, light, shade, color), design principles (repetition, compliance, contrast, dominance, balance), space concept and 2 and 3 dimensioned techniques and abstracting studies, urban space reading techniques, sketching and abstracting techniques concerning the urban space are taken up (Figure 1).



**Figure 1:** YTÜ, Urban and Regional Planning Depart., Coordination Process of Design Education in First Year

In the second semester of the education; “Planning2” studio studies are carried out concerning the perception of the planning and design principles concerning the “quarter” unit in the urban settlement system and carrying different geography, socio-economical structure relationships to the students forming knowledge build-up on the subjects of fundamental design and drawing techniques in the end of the first semester. The support is provided by means of a conceptual course titled “housing” to the practical study of Planning 2 studio. In the coverage of this course; the housing concept, typologies, production processes and models are taken up.

The students that completed the first class in the end of each of two semesters are expected to have the spatial perception and urban reading skill which is one of the fundamental targets of the planning discipline and to produce the location-specific spatial design principles (in the light of the different geography, socio-economical structure components). What is tried to emphasize is that; the design is not to copy a picture in our mind to every place, but every geography and socio-economical structure components should produce their own truths. The designer should be able to read these components and should express by means of mixing with the new needs to occur in the future.

In this paper, the process followed will be taken up in the coverage of the “Planning Studio 2” and based on the “urban exterior space design principles” and followed in the second semester of the first year of the YTU City and Region Planning education program.

## **1. PLANNING 2 STUDIO OBJECT DEFINITION**

The fundamental purpose of the course is carrying the different geography, social and economical structure relationships to the place and conception of the planning and design principles concerning the “quarter” unit in the urban settlement system. The sub-objects targeted are as follows:

- Investigating the space formation criteria in the geographies having different life habits in terms of different climatic conditions, different topographic structures and customs and habits. In other words, transferring the reading methods of the space components,
- Making comparisons between the traditional life habits in above-defined geographies and the today’s habits; and seeking connections between the original ones and related requirements,
- Transferring the design principles of a neighboring unit (in which 800 – 1000 persons live) which is specific to the place defined,
  - \* Scenario defining (relief, defining the environmental data),
  - \* Direction construction (building /parcel relationships; where will the building series take part? Where they will be directed?)
  - \* Structure block definition,
  - \* Public common spaces definition and design principles (street, square, court...)
- Quarter concept, definition criteria in the settlement hierarchy, its importance in the planning system,
- Quarter concept planning and design principles are listed as follows,
  - \*Analysis (evaluation of natural structure, socio-economical structure, environmental data)
  - \*Synthesis (problem and potential definition),

\*Design principles,

\*Zoning (function areas location, density grading and transportation system grading),

\*Orientation,

\*Mass study and site plan formation (definition of the building/parcel, parcel/street, building/street, building/building relationships),

- Constructing the relationships by means of the macro measurement planning data (master plans / strategic plans),
- Constructing the density and design relationships,

## 2. PLANNING 2 STUDIO SCOPE DEFINITION

A system is followed from the micro (neighboring unit) to the macro (quarter); from the macro (quarter) to the micro (detail) in the studio content. In this direction the subject is taken up in 2 main headings.

### 2.1. Different Geographies and Spatial Structure Components:

First of all, it is tried to make the concept concrete by means of the questions “what is the pattern and what are elements forming the pattern?” After sampling one by one and discussing the pattern components, the analysis on the sample patterns and the scenario studies concerning these patterns are realized (Figure 2a, 2b).

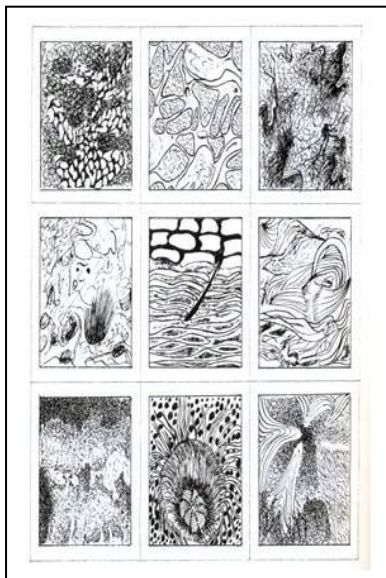


Figure 2a: What is the pattern?



Figure 2b: Urban pattern



Figure 2c: Urban pattern

On the images concerning the two and three dimensional and different geographies; it is tried to read the elements which form the urban pattern and to form the tips concerning the design. In other words, the story which takes part behind the space is tried to be read. These scenario studies are realized on the traditional urban patterns (Figure 3).

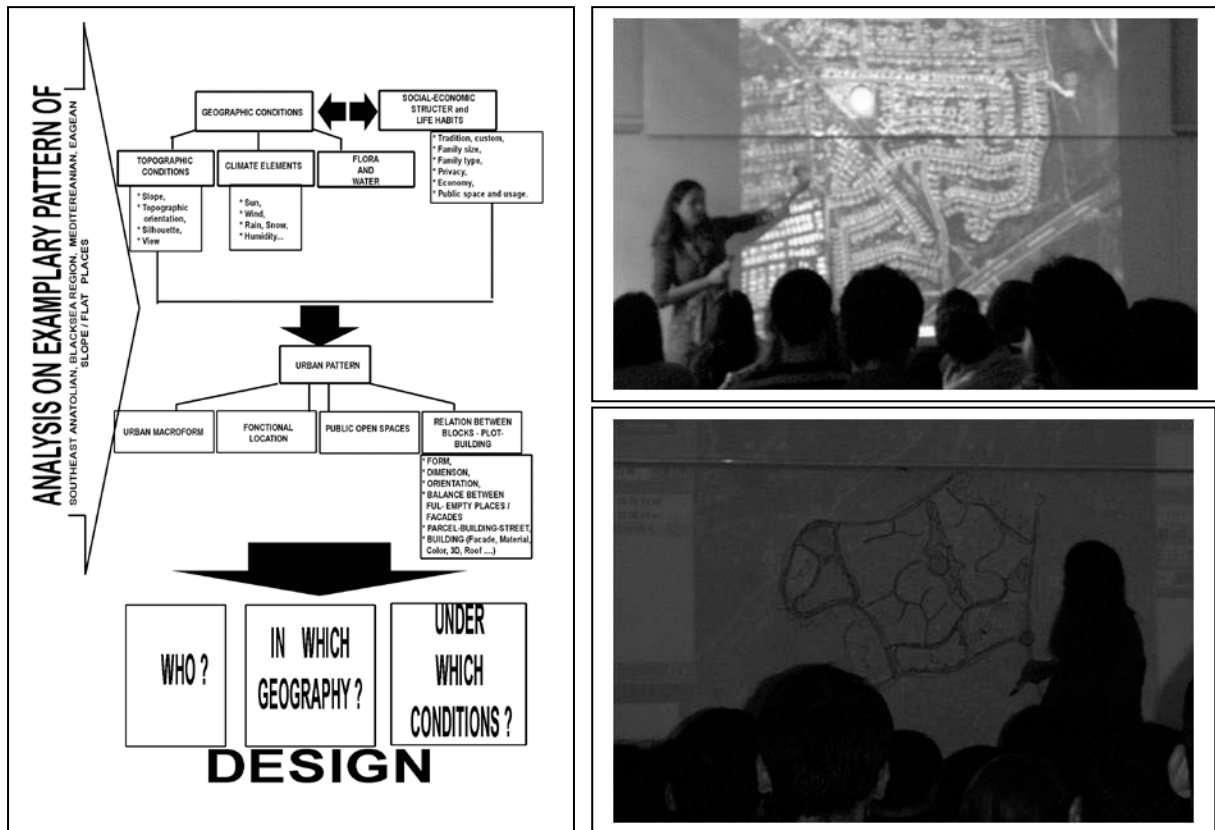
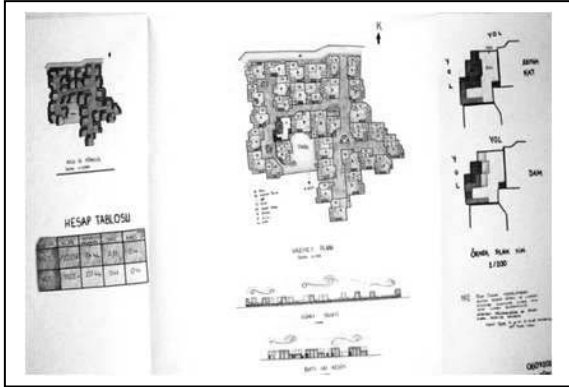


Figure 3: Identification Process of Urban Pattern

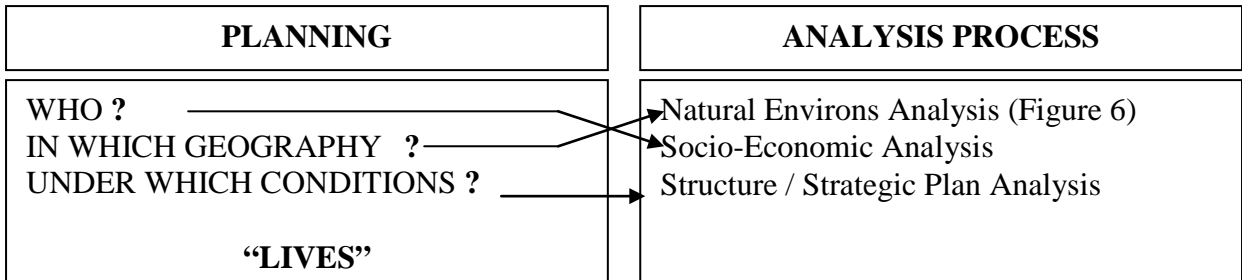
The study concerns the pattern analysis and design on the selected regions from the different geographies every semester. The process which is described in the coverage of the paper is carried out on the studies on the patterns which take part in the Southeast Anatolia and Black Sea regions of Turkey. It is tried to form the design samples in the Southeast Anatolia (figure 2b) in which the flora is about non-existent and the daily life is mostly experienced in the courtyard in the hot and arid climate zone and in Black Sea region (figure 2c) in which a rainy flora and separated structure typology are dominant in a rainy climate zone (figures 4a, 4b). In the studies, it is dwelled upon the concept of space, street, square definitions, building, parcel relationships, principles of belonging in the design and definition formation.



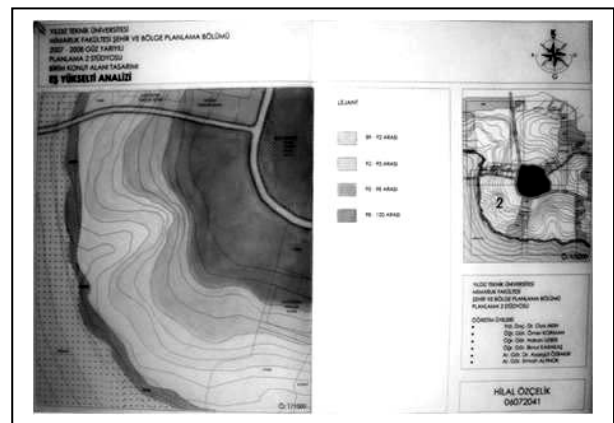
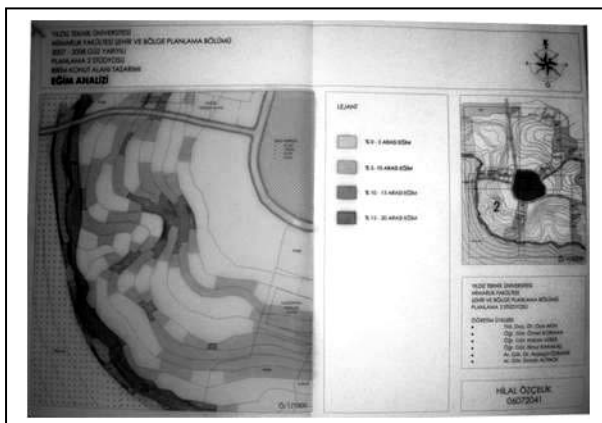
**Figure 4a:** Southeast Anatolian Region Pattern Exercise **Figure 4b:** Blacksea Region Pattern Exercise

## 2.2. Quarter Unit Planning and Design Process

Planning is the study of seeking answers for 3 fundamental questions with the most general meaning; ‘Who?’, ‘In which geography?’, ‘Under which conditions’ they will live, work ... etc. Starting from these fundamental approaches, the stages of analysis, synthesis, zoning, orientation and mass study stages are followed with the feedbacks (Figure 5).



**Figure 5:** Analysis Process in Planning



**Figure 6:** Natural Environs Analysis

After realizing the synthesis study (figure 7) in which the problems and potentials are defined according to analysis, it is passed to the design stage. The zoning study, in which particularly the quarter concept, function areas, locationing, density and transportation staging are defined, is performed at the design stage (figure 8).

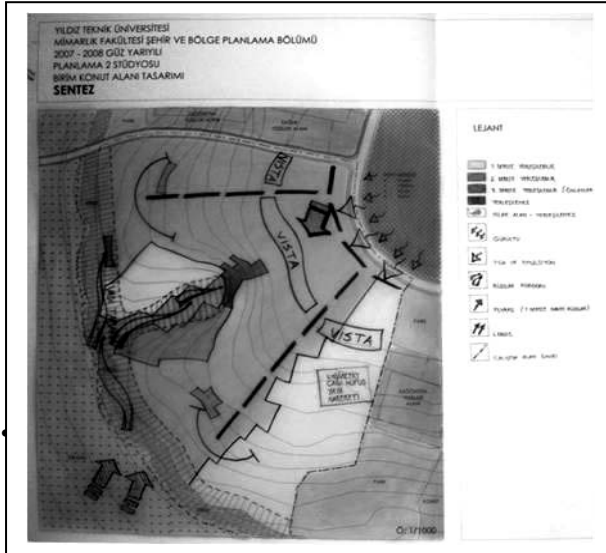


Figure 7: Synthesis

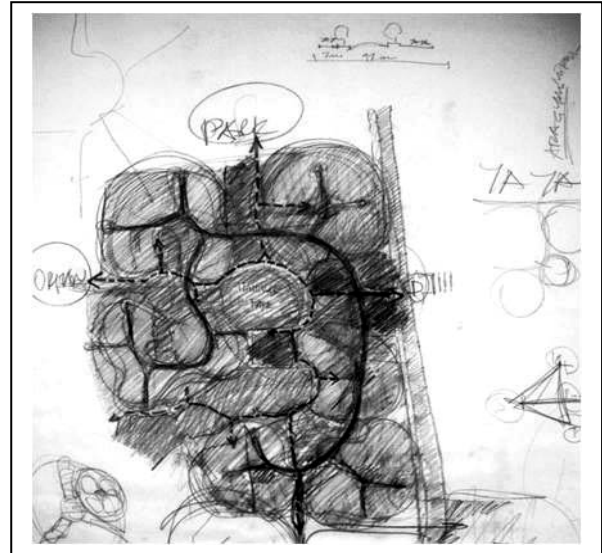


Figure 8: Zoning

After that, the orientation (figure 9) and mass study works (figure 10) are carried out in which the parcel-building relationships are defined and the orientation of the buildings is defined afterwards.

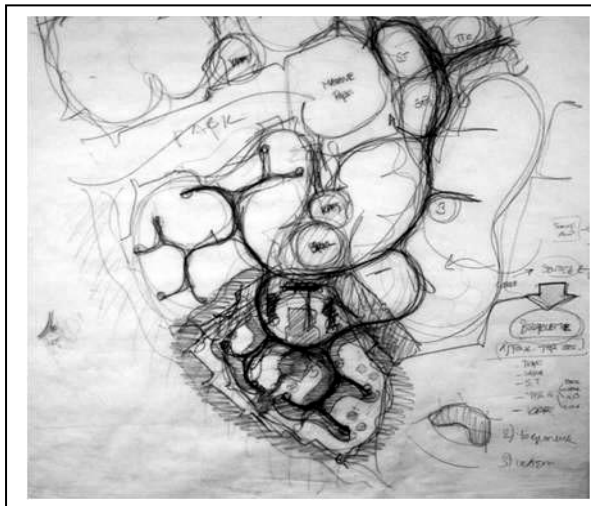


Figure 9: Orientation

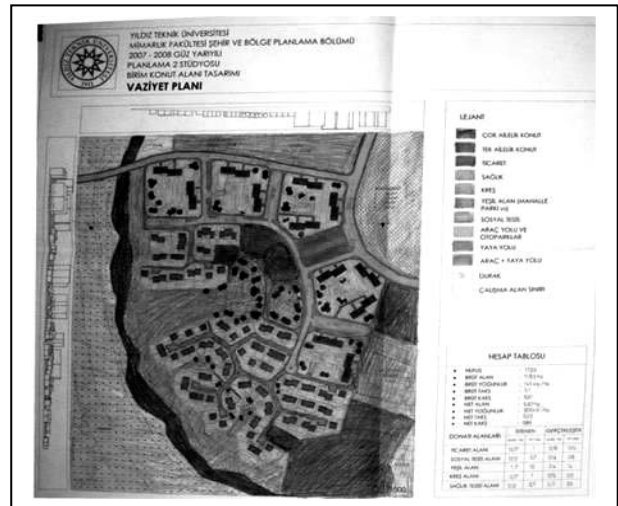


Figure 10: Mass Order / Site Plan

### 3. PLANNING 2 STUDIO METHOD DEFINITION

Basically it is taken up in two headings as the studies which are continuing in the class whole and the studies based on the group work in terms of the operational method of the studio. The “collect” and “distribute” method is applied for various times in the day during this process. At the collect/get together stage; the conference, discussion, preliminary sketch production processes that are realized in the entire class are followed and it is tried to ensure coordination and to ensure a rich discussion environment with the participation of all of the teachers and students. At the distribute stage; the studies are continued at the group basis. In these studies; it is enabled to apply the correction concerning the details in directing the group teachers and the individual study of the student on the preliminary sketch and model (figure 11).

One of the important headings in the studies which are followed in the entire class is the seminars / conferences. In the conferences which are composed of the presentation of each lecturer taking part in the studio works; in addition to conceptual and theoretical expressions, a method is followed in which the discussions take part on various visual and the student is included in the process (figure 12). The joint discussions on the preliminary studies are realized in two stages.

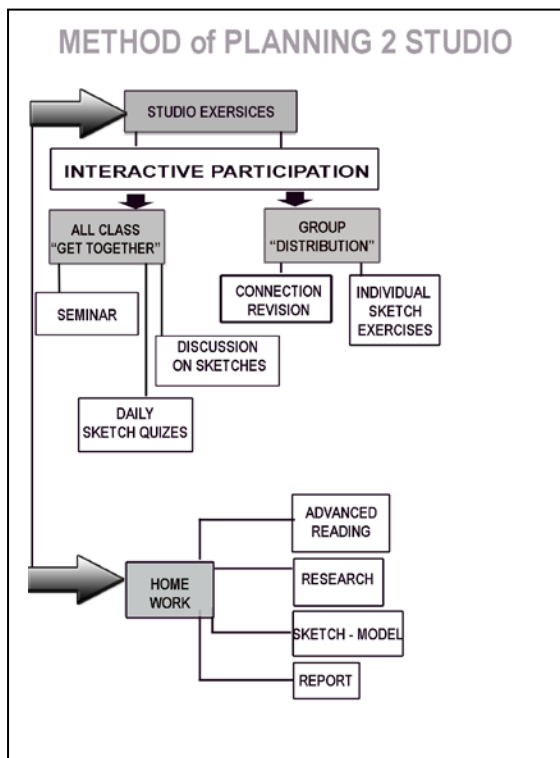


Figure 11: Method of Planning 2 Studio



Figure 12: Seminar



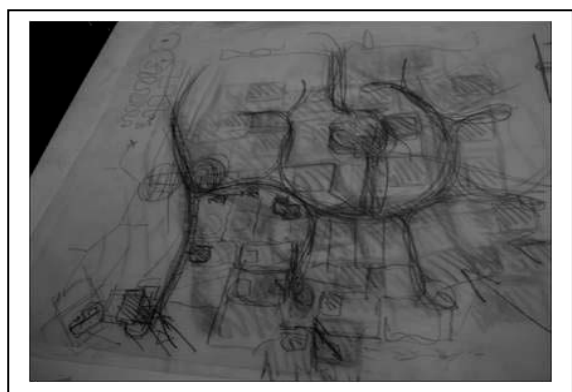
Figure 13: Criticize of sketches by students

After exhibiting all of the student studies, the students are expected to select one partner and to criticize the studies of each others. After that the discussion is opened to the entire class with the participation of the teachers and students. As purpose in addition to ensuring the coordination in the entire class, it is targeted to develop the skills of seeing, perception, self-confidence and self-expression of the students (figure 13).

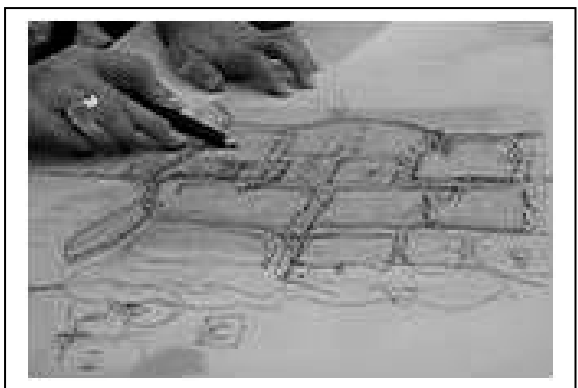
In addition, the preliminary study examinations which are carried out throughout the class will be repeated every week, and it is targeted for the students to acquire production technique and production in the predetermined period of time. In these examinations, it is required firstly to draw a square with 25x25 cm dimensions as imaginary and with 1/1000 scale. This represents a virtual area. After that, the students are required to determine a topography (hill, valley, water coast, inclined, flat etc) and to carry out a design study relating to the subjects which are determined with the weekly course schedule. The study subject is changed every week because of the weekly agenda, in other words, a problem is put forward (particularly a problem that is determined by every student) and they are expected to produce solutions.



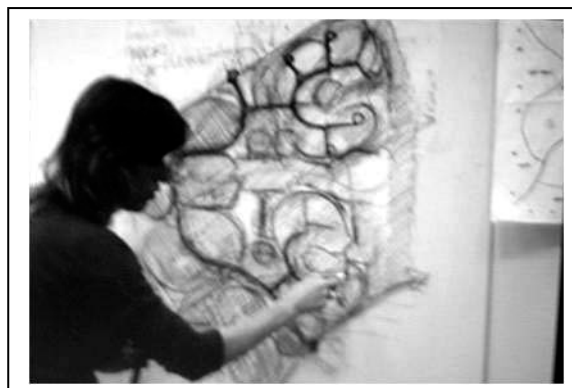
**Figure 14a:** The criticize on model



**Figure 14b:** The criticize of sketches



**Figure 15c:** The criticize of sketches



**Figure 15d:** The criticize of sketches

In the studies which are carried out at the basis of group, the individual study (on preliminary sketch and model) is continued with correction and discussions by means of interactive participation as well (figure 14a, 14b, 14c, 14d).

The assignment studies are based on transferring the research, reading, source accumulation and build-up out of the studio of the student onto the preliminary sketch study.

#### **4. CONCLUSION and EVALUATION**

As a conclusion, it is observed that the students that become successful in the “Planning 2 studio” which is followed in the first year of the City and Regional Planning Training Program acquire the following skills considerably;

##### **a. Concerning the urban exterior space design principles research and conceptual knowledge build-up process,**

- Information access method, research techniques,
- Synthesizing and interpreting the information accessed,
- Making concrete and expressing in graphics the conceptual information build-up,
- Constructing the relationship networks between the scales,
- Analyzing the socio-cultural components resulting from the natural structure underlying the space concept,
- Urban hierarchy (accommodation, working, transportation, equipment, ...),
- Defining the quarter concept and its components,
- Determining the problem in the housing and determining the requirements,

##### **b. Concerning the development of the urban design skill,**

- Expression by means of freehand technique,
- Space designing in accordance with the requirements,
- Space designing in accordance with the differentiated scenarios according to the socio-cultural structure,
- Constructing the population, density and design relationships,
- Expression of design in both written and orally (by means of 2 and 3 dimensional expression techniques) ,
- Constructing the neighboring relationships, structure block, main pedestrian artery, equipment areas and access surfaces design principles in the residential areas design process,

The results (which are considered either positive or negative according to our opinion) of the method which is followed in the process which we experience in the last 10 years and we evaluate and try to develop the final products every year take part as follows;

It is observed that the traditional pattern analyses which are studied in the first weeks of the “Planning 2” studio and the design exercises concerning different geographies extended the point of view of the students to the space to be designed. At the same time it is observed that they expanded diversification of the design modules learned according to the different culture and geographies, producing alternatives and developing flexibility in the thought and designs.

Another subject title which is considered to put positive results is the short-term preliminary sketch examinations which are repeated with different scenarios every week and realized as an virtual space. It is determined that these examinations not only increased the thoughts and skills of the students on the subject of design but also increased the hand skills (in comparison with the previous years).

Finally; at every stage of the studio studies it is observed that the students developed the self-expression skills which are considerably important for planning profession with the participation of the students as not only group but also as class in the discussions.

On the other hand, the most important matter on which the method shows weakness in this workshop study is that the students remained insufficient on the subject of 3 dimensional expression / exposition (model, section, perspective). The computer technologies (3 dimensional modeling techniques) are not used in accordance with the principle of developing the “freehand technique” which is one of the fundamental targets of the studio. Consequently, the students are expected to work on the model and to draw sections for perceiving the space as 3 dimensional. However, this technique is considered idle by our students and avoided to a considerable extent.

Finally, it is wanted to mention a problem resulting from the flow of our education program. As it is explained in the introductory part of the paper, only the subject of “design” is taken up in the first year of the planning education. The design subject is overlooked because of the dense of the subjects which should be transferred and the contents of subsequent studios. Consequently, it is observed that design skills of our students are wasted away remarkably at the stage of graduation. However, our educational programs are continuously reviewed as a whole concerning this subject.

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<sup>i</sup> The university students in Turkey obtain the right to have university education as a result of a central system examination with the contents of fundamental science areas. They select the department to be studied according to the score obtained in this examination. In addition to this the skill examinations are taken in some departments of the universities. However, the students that take part in the YTU city and region planning educational program have the right to take education as a result of the central system examination, without experiencing such an exam system.