

# Paradigm shift in studio culture

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## Abstract

This study originates from a second year architectural design studio experience which was conducted at İstanbul Technical University, Faculty of Architecture in 2012 and it discusses a paradigm shift in architectural design education in the context of studio culture.

The main motivation distinguishing the studio was to start an open studio culture in a cultivation atmosphere, and elaborate architectural design education in a multifaceted manner while questioning the teaching-learning duality.

'Parallax-Room 3407' inherited its name from the book 'Parallax' by Holl, which triggered the conceptual discussions it is founded on, and the studio 3407 of Taşkışla. The studio during the period of fall semester, followed different synchronous trajectories which are covered in the following subtopics in this paper: Bodily Experience, Critical Thinking, Learning By Doing, Narratives On Urban Context, Parallax: Thinking With Concepts, and Thinking By Representing.

This learning environment referred to a constructivist educational approach, and was founded on the acknowledgement that design knowledge can only be achieved through discovery, not by a passive transmission from the teacher to the student. The contextual character of architectural design knowledge necessitates a paradigm shift; the activation of an open studio culture and burgeoning approaches of learning to learn, learning by discovering/ experiencing/ doing instead of pursuing conventional practices.

## Keywords

Architectural design studio, Contextual knowledge, Constructivist Approach, Design education, Studio culture.



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## 1. Introduction

A paradigm shift in design education emerges in a form of student-centered education, which focuses on learning how to learn in order to attain the life-long learning ability. Student-centered education differs from the conventional one in basic assumptions about curriculum, knowledge, teaching-learning strategies, and learning environment. In conventional education curriculum begins with the parts of the whole; each courses' knowledge including architectural design project are transmitted separately according to the strict adherence to fixed curriculum. Whereas the curriculum in student-centered education gives the priority to the concepts, which refer to the big picture of architecture: integrated architectural knowledge. In this article, student-centered education is introduced as a teaching - learning strategy - a method of "learning to learn" process. In regarding to this process, the learning begins with the whole and expands to include the parts, giving priority to the pursuit of students' questions, curiosity and interest in learning. Learning to learn process makes the students to adjust themselves constantly as an extension of the process, thus sustainable education is achieved. In this process, students could learn how to take position accordingly, how to develop tactics according to the contextual issues. Learning how to learn also develops the student's ability in establishing the tactics for specific problematic through a dialogue between questioning and answering.

Having curiosity, not being tired of searching and being aware of both deep relations and pragmatic reasons are some of these interwoven tactics. These interwoven relations in a holistic learning strategy also require the shift in architectural design education from so-called an instructor-centered to a student-centered paradigm. For students, this means increased personal responsibility and a place in the educational spotlight. Accordingly, students participate in all studio discussions placing the instructor in the role of coaches and mentors for the development of their sustainable skills.

On the other hand, the information technology makes learning strategies

possible to become a participatory medium, since it increases the interaction and sharing among learning communities. Therefore, "learning how to learn" becomes an increasingly crucial issue in design education, which requires rethinking the studio culture as a paradigm. Studio culture consists of a specific learning environment that can be explained with the metaphor "*cultivation*", which has a similar process of farmers who consolidate the unlimited natural resources to grow plants. However, cultivating minds instead of plants requires an intellectual atmosphere, which could be created within the studio culture. The new learning paradigm depends on an open system in which communicative relations between the student and the instructor are continuous and incomplete. This means that learning - teaching dialogue occurs in an intellectual atmosphere in which students are encouraged to assess themselves questioning where they stand and understand architecture in relation to its context. This intellectual studio atmosphere also makes the students gain an ever-broadening critical thinking and creative mind. Within the "learning to learn" paradigm, learning environment is a place where the students generate design knowledge by experiencing, discussing and doing.

This is a learning process taking over teaching methodologies that focus on design projects' final products. Method as a process consists of all interactions, dialogues, behavior settings in which students immerse into doing, and discovering architecture through intuition. Meanwhile the instructors help to create new ideas with students to foster relational thinking open to inquiry. Thus, experiencing actual environments through excursions, field trips are rich resources as well as virtual environments, digital information network. Both experiential and digital information network coexist in a mutually reinforcing way for generating design knowledge that could be learned through practicing, learning by doing. Today many educators consider the principle underlying the adage, "*Give a man a fish and feed him for a day, teach a man to fish and feed*

*him for lifetime*” to represent the significance of practice.

Today, the studio culture becomes the core aspect of education presenting the paradigm shift for understanding and learning in the face of rapid change. Accordingly, we have to shift our thinking from the old model of teaching to a new paradigm of learning. This apparent shift is about the instructor’s role; in conventional education, his/ her role is directive, rooted in authority, learning is based on repetition, and so students are recipients of knowledge. Whereas in learning to learn paradigm, instructors have a dialogue with students, helping them to construct their knowledge. Learning is therefore, built on awareness, critical thinking, curiosity and creative thinking. These abilities afford students to gain a formation for lifelong learning, which could be developed through learning as inquiry, learning how to embrace the change, learning by experience, learning by doing. Within the “learning to learn paradigm”, the studio culture concentrates on the formation of architect who is a graduate that creates new ways of thinking, seeing and understanding by herself / himself. The instructor as a coach moderates, suggests, but allows the students room to experiment, ask questions, try things that don’t work (Brooks, 1999). Throughout this process, discovering the new ways of thinking, understanding and interpreting architecture learning environment students reflect on, and talk about, their activities together, with collaboration of instructors creating intellectual atmosphere together.

Generally speaking, design issues are dominated by the fragmented knowledge caused by the segregation of complementary concepts such as beauty and utility, form and function, architecture and city, actuality and possibility, theory and practice. Dividing problems into separate components in order to make them easier to address, each portion separately has been one of the characteristic features of twentieth century intellectual life (Kurokawa, 1991). The result is that many architects have lost the ‘*big picture*’ that might give rise to associations and connotations of different

types of knowledge. In response to the loss of the big picture, design education should be based on learning and teaching dialogue that emerges in the design studio through the mutual relations between conceptual and experiential arguments. In this atmosphere created by both rational and intuitive reasoning, all the opposing poles including both the process and the product simultaneously proceed in a spiral movement. They both become an interwoven whole and coexist simultaneously, completing each other by asking questions and finding answers within a comprehensive, open-ended structure. Meanwhile, empathy that motivates the students for working, understanding and learning, emerges in-between learning subject and teaching subject.

This article focuses on the paradigm shift in studio culture, which is the extension of student-centered education based on ‘learning how to learn’; and its implementation through ‘Parallax Room 3407’: a second year architectural design studio in the 2012-13 fall semester at Istanbul Technical University. In fact, this studio paradigm has relied heavily on the constructivist approach to education in which collaboration among students and instructors contributed to learning. The studio culture spontaneously emerged, as referred in the backbone metaphor. (Figure 2) This culture specific to Parallax Room 3407 could be explained by a collaborative learning environment, in which the workshops, excursions, readings, daily studio work, pin-ups and juries, short and spontaneous productions nourished a long-term design project about Bozcaada. Intellectual atmosphere in Parallax Room has been created through the different trajectories followed by the behavior setting of learning environment.

Consequently, this studio culture brings about inexhaustible curiosity which develops students’ awareness and critical thinking, culminating in creative thinking. Furthermore, an awareness of bodily experience in understanding spatiality; learning and reflecting by doing; reading the city and environment by excursions and surveys; re-presenting by different tools and techniques; studying in different

scales and contexts were the objectives and idiosyncratic characteristics of the Parallax Room that have made its culture distinctive. The studio culture has actuated a paradigm of learning environment bringing the student in self-confidence, motivation and life-long learning ability. Besides, it has triggered the students' innate curiosity about their environment and the city enabling them to be aware of the contextual issues and to understand how they are addressed within the design processes.

Students have also engaged their existing knowledge and real-world experiences to their design problems. Furthermore, they inquired and discussed the relational issues. They were expected to understand the logic of spatial and tectonic configurations, and ultimately learn to transform them into a new knowledge specific to their design problems by drawing conclusions based on their processes.

## **2. About the studio culture**

### **2.1. From the old model of teaching to a new paradigm of learning**

There is no specific definition that fixes the curriculum of the design studio, since it is waymore different than the other courses. It is not only expected to go beyond teaching 'design', but also create a learning environment for every contributor.

Recently, constructivist approach to design education has been adopted in order to point to the generic knowledge which could be constructed during the teaching - learning dialogue. Since the design knowledge is contextual and changes accordingly, its learning method is more crucial than its teaching method. This type of knowledge requires students' initiatives and an autonomous learning depending on 'doing' and 'experiencing'. In doing so, the students are urged to be actively involved in their own process of learning and the studio culture relies on obtaining / discovering knowledge instead of transmitting it. Thus, it unfolds a paradigm shift in architectural design education. And also the change in theories of seeing, thinking, understanding has influenced the education system in a way which trans-

forms it from a teaching-centered education to a learning-centered one. In the conventional way of teaching, design knowledge is transferred from the instructor to the students. It presumes the existence of an academic knowledge that is worth communicating and doesn't tend to change very much over time. The twentieth century was about creating a sense of stability to buttress against the change and trying to adapt to it. Parallel to this, design knowledge was characterized by relatively fixed principles and limited rules. Design was a problem-solving activity, having well-structured or ill-structured problems, where the transmission of knowledge from the instructor to the student used to characterize the design studio.

However, twenty-first century is about embracing change. Design is a future-oriented state of mind, aiming towards change. 'Change' -as a keyword- overlaps with the dynamics of the era and eliminates the boundaries between teaching and learning as well as all boundaries between opposing concepts. And this phenomenon provokes an empathy. A dialogue occurs between the student and the instructor which helps to create an intellectual atmosphere as a learning environment and behavior setting, constituting the studio culture together.

Embracing change opens the doors of future as a set of new possibilities for design knowledge. In doing so, discovery of knowledge instead of transmission of it becomes more important than ever. Goldschmidt (1994) explains the reasons of this paradigm shift as follows: in generally speaking design problems are ill structured and indeterminate. Indeterminate forms of design knowledge cannot be transmitted; and they are difficult to perceive and impossible to grasp with the conscious mind. In this context, discovery of knowledge which can also be achieved by intuition becomes essential in contemporary education and it encourages learning by experience and learning by doing in which students develop knowledge for themselves according to their requirements. Thus, a paradigm shift in education adopting the discovery of knowledge through learning by doing, instead of the con-



ventional recognition of the transmission of knowledge is inevitable.

Because of its contextual and flexible character, it can easily be transformed into new conditions and adapted to frequent changes. Its open-ended potential also cultivates the ability to think and to represent innovatively by using both digital and analogue tools that trigger the relational thinking, which is an inseparable part of a creative process. Discussions through these representation tools within the design process give way to critical thinking that enhance creative thinking. The embodiments of all ideas, concepts through these tools are the important fragment of the studio culture that dwells on togetherness.

This new learning paradigm based both on learning by experience and learning by doing facilitate to build the constructive knowledge, nourishing each other as an indeterminate process. Indeterminate design process can be considered as a puzzle-solving activity and an interpretive search for an appropriate answer to the questions arose during design process. This approach to design process may help to develop an articulated schema, looking at the subject from various perspectives. It leads to the dynamic interplay between all complementary poles that makes critical thinking flexible and open to change (Aydınlı & Avcı). Thus, studio culture should be open to change through which students become skillful in flexible thinking and critical thinking. While the boundary between the teaching and learning has been removed, the dialogue emerges creating intellectual atmosphere. Thus, studio increasingly could be transformed into learning environment that consists of different frequencies in accordance with enthusiastic learning.

On the other hand, studio culture having an intellectual atmosphere could provide a positive and respectful learning environment that encourages optimism, respect, sharing, engagement, and innovation among the students and the instructors. Within this intellectual atmosphere students are encouraged to learn both inside and outside the studio through individual and collective learning opportunities

with the instructors. They are not limited to field trips, but include the participation in professional societies and organizations, honor societies, and other program-specific or campus-wide activities. In fact, the learning outcomes of the studio culture include student works, visual, written and verbal presentations, design ideas as well as design project. Design process is as important as products of all trajectories. For all these considerations, studio culture has become the most important determinant in developing the formation of the architect and enhancing the quality of architectural education.

### 3. A constructivist approach to design education

According to constructivist approach, learning is not a linear process; and the learning environment is open to change in understanding, interpreting the existing knowledge and generating the new one in a flexible way. The constructivist approach based on a collective teaching-learning environment has been overlapped with the studio culture in Parallax Room 3407; The recent debates in architectural education often refer to the expectations of the international accreditation conditions. The architectural schools and departments are forced to restructure their curriculum and their pedagogy according to the learning outcomes that could be obtained according to the student performance criteria<sup>1</sup>. The formation of understanding, ability and their interwoven relations could be learned by experience, that calls for a different teaching-learning strategy. Actually, learning to learn takes its roots from the constructivist approach to education. According to this approach, design knowledge can be constructed by the mutual relationship between the students and the space as architectural, urban and natural environment in which they exist. The eye, hand and brain coordination bring about seeing, doing and thinking by re- structuring the whole to be aware of the big picture. The dialogue between the student and built- environment plays an important role as much as the mutual relation between the teaching subject and learning subject. Collaborative learn-

<sup>1</sup>According to NAAB Conditions, the program must provide student work as evidence that its graduates have satisfied each performance criterion. The criteria encompass two levels of accomplishment: Understanding / The capacity to classify, compare, summarize, explain and/or interpret information. Ability— Proficiency in using specific information to accomplish a task, correctly selecting the appropriate information, and accurately applying it to the solution of a specific problem, while also distinguishing the effects of its implementation.

ing based on the dialogue between learning and teaching is a remarkable aspect of studio culture. The response to the environment attributing to all of its dimensions without reducing them, makes learning possible also in and outside the architectural design studio. Collaborative learning which includes discussing, understanding and learning together, plays an important role in developing responsive awareness. It is not independent from the society and cognitive processes. Thus, what is outside the studio space is also a part of the studio culture, preparing a medium for learning by real life experiences. According to the constructivist approach, the knowledge is contextual and can be grasped by the students. In this context, knowledge represents the reality / real situations which changes according to the contextual conditions. Using only analogue tools, therefore, sterilize our imagination; lack of imagination cannot carry representation to the reality.

The coordination between thinking and doing as shown in figure 1 illustrates how the articulation of design knowledge emerges. The oscillation between doing and thinking facilitate students to construct their knowledge in a non-linear process, called “learning by doing”. This interaction occurs with the flexible mind and in learning environment, which motivates students to open their mental locks, creating curiosity. At the same time, it refers to the design knowledge that could be constructed in a spiral movement supported by the connotations and imaginations. Figure 1 represents the main idea in constructivist approach to education. We can also adopt this diagram to illustrate the interaction of teaching and learning in order to understand how the mutual dialogue between students and instructors articulate the design ideas. Correspondingly students could transform these ideas into design knowledge. Teaching – learning strategies generate the studio culture as a phenomenon that consist of the behavior setting, learning strategies and tactics. Both rational and intuitive learning refer to the cognitive and affective strategies in studio culture. Tactics are learning abilities including creative thinking, critical thinking, metaphor-

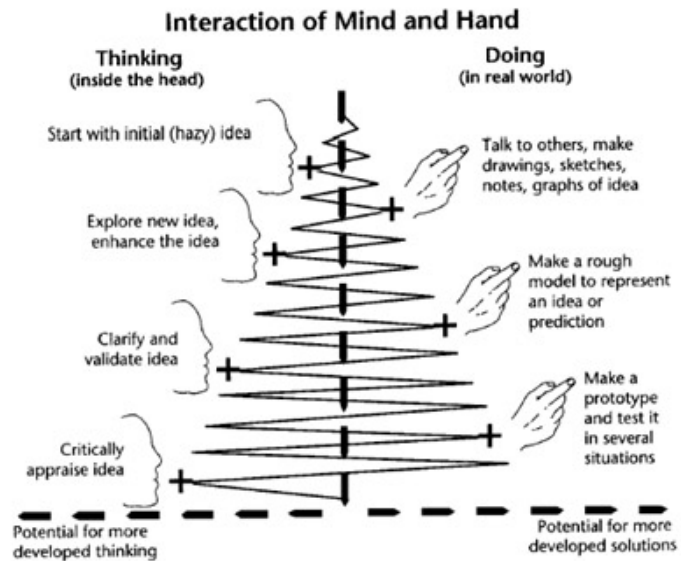


Figure 1. Interaction of mind and hand diagram (Todd, 1999).

ical thinking and motivational cycle. In studio culture the behavior settings embody the learning environment, which emerges in physical environment, social environment, digital medium and intellectual atmosphere.

In this article, learning environment is combined with all the sources provided by the studio culture of Parallax Room 3407 in which learning has occurred within the intellectual atmosphere. According to the recent authorities on architectural education, both the students and instructors have collaborative tactics and learning strategies which coexist in a specific learning paradigm. The main point in learning centered education is to embrace change, to motivate students to ask questions and to encourage them to come up with undiscovered architectural issues. It is emphasized that change motivates and challenges; change forces students and instructors to learn differently. Thus, learning in collaboration, in other words learning in a collective body of teaching and learning which takes its roots from the constructivist approach has been the essence of ‘Parallax Room 3407’ studio culture.

#### 4. Studio culture created in ‘parallax room 3407’

An atmosphere in which understanding and learning occurred in an empathetic way was created in Parallax Room 3407 as a studio culture. This studio culture could be characterized



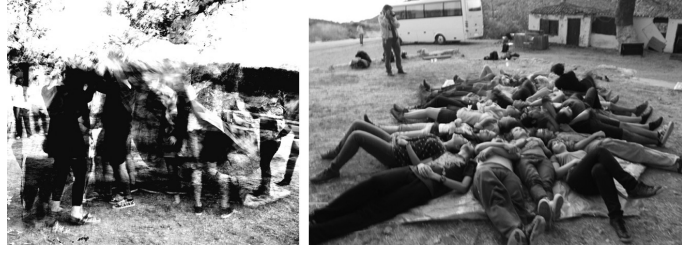


the potentials of built and natural environment and to interpret this experiential knowledge into spatial design alternatives. The experiential knowledge known as tacit knowledge is implicit knowledge that could be grasped in a different way of seeing, thinking and sensing. In order to be aware of the relationship between tangibles and intangibles in design, implicit knowledge is important as much as explicit knowledge.

Tangible values such as materials, tectonics, size and scale are measurable dimensions of space; while intangibles such as texture, color, smell, sound are immeasurable dimensions which could be grasped by bodily experience in space. Both tangibles and intangibles intertwine a combined experience of body and mind, connected with thoughts, senses and memories. They both nourish and complete each other through the connotations and denotations. It is impossible to teach tacit knowledge, which has often hidden dimensions; it can be learned by bodily experience opening all the senses and sensibilities.

Bodily experience in Bozcaada has provided students to discover the spatiality of the built and natural environment that consists of both implicit and explicit knowledge. The potential of the environment what made it unique has been easily discovered through sensation, intuitive reasoning and logical reasoning. Bodily experience has also motivated students in understanding their personal values, beliefs, priorities and viewpoints in creating conceptual framework and its reflection to design project. In reading urban and rural environment of Bozcaada through the bodily experience have been created a rich embedded, complex skills and knowledge. To address this complex processes, students have been forced to develop narratives for triggering their imaginations and understanding design knowledge. They have explored experiential knowledge, which has evoked key bodily human experiences and feelings.

Besides being a crucial part of Bozcaada excursion and workshops, bodily experience affected the rest of the process including all the work such as experiential mapping, reading the



**Figure 3.** Paper workshop in Ayazma, Bozcaada conducted by Gülşah Aykaç. (Aydınlı & Kürtüncü)



**Figure 4.** Movement workshop at sunset, conducted by Gülşah Aykaç in Polente/Bozcaada. (Aydınlı & Kürtüncü)



**Figure 5.** Bodily experience, Bozcaada. Sketching on the wall, Taşkılla.

city and environment, constituting narratives, designing and representing through bodily experiences. Three workshops based on bodily experience focus on re-understanding the spatial character of the environment through body and movement.

#### 4.1.2. Critical thinking

The critical thinking plays an essential role for architect's education within the new architectural education paradigm. The need for critical thinking in design is evident in response to the rapidly changing architectural profession. Architects must think critically to produce new ideas, new relations that enhance creative thinking and awareness. The properties of critical thinking are related to some personal traits such as intuition, curiosity, skepticism and discovery. New architectural education paradigm consists of the priority for enhancing critical thinking. It requires

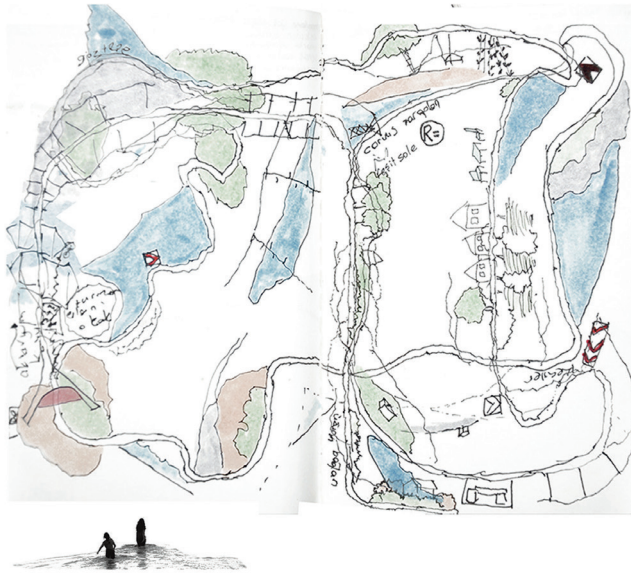


Figure 6. Mapping of the island experience, Bilge Akçaoğlu.



Figure 7. Mapping of the island experience, İlke Şahin.

a more experimental and experiential approach to architectural education, which enables students to develop their own design ideas and practical issues. And it also forces to rethink education as a whole resulting to restructure both the curriculum and pedagogic approach.

Architectural education does not depend only on competence; but also design thinking in order to generate creative ideas across a variety of disciplines by exploring intuitive, rather free flowing design possibilities. Critical thinking that enhances both design thinking and creative thinking needs a non-linear mind-set in which obvious and predictable outcomes should not be expected. The mission of architectural education should focus on enhancing creative thinking ability in order to graduate successful architects.

Creativity is about thinking something different; and it can be learned through critical thinking and enhancing the awareness on ways of seeing. A paradigm shift in design education emerges in a form of a new way of design thinking, metaphorical thinking which provides innovative way of thinking so called relational thinking.

Relational thinking involves; imagining things in a fresh light, questioning assumptions and discovering connections among various phenomena. Following questions should be asked to be aware of how to deal with the changing values of global world:

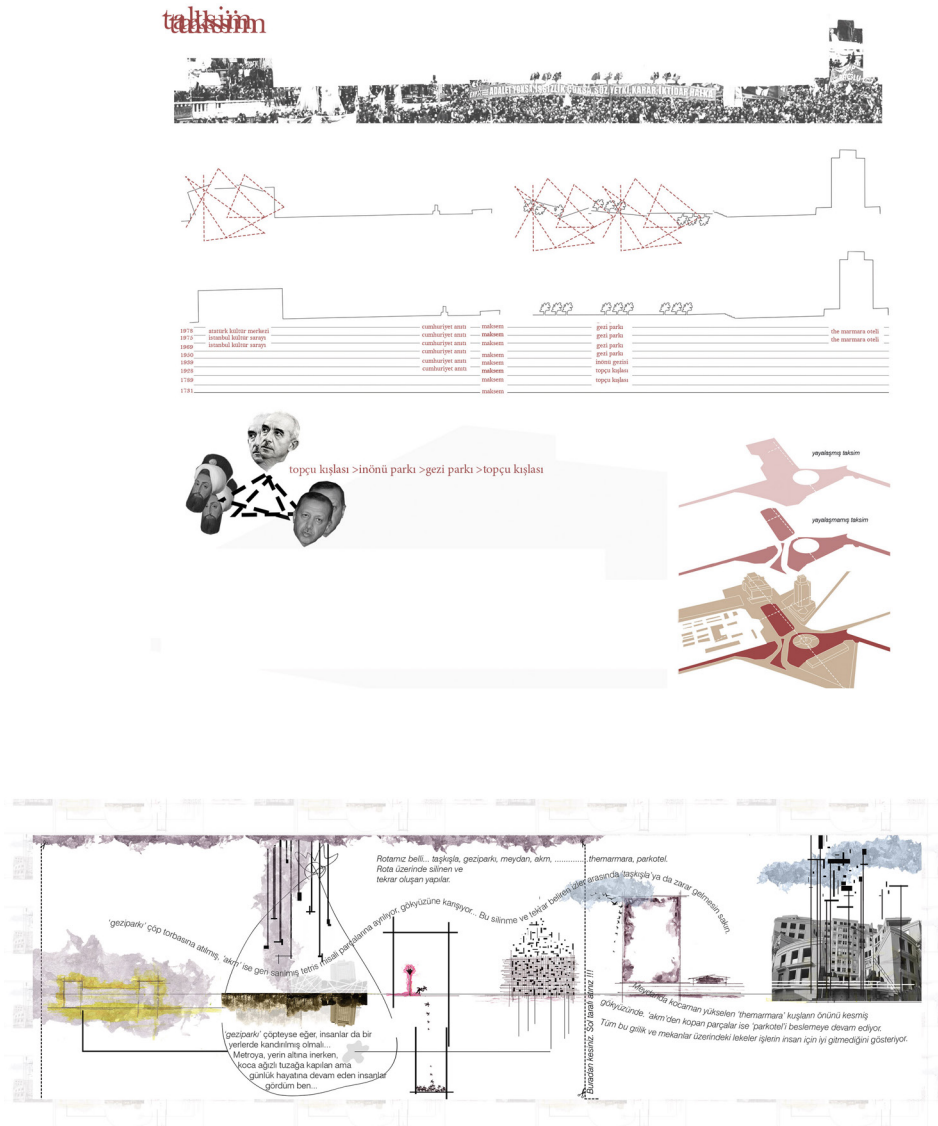
How can students develop their relational thinking that enhances their critical thinking?

What kind of learning and teaching strategy is required for bringing in this formation to architects?

These questions has structured the framework of the studio culture called Parallax Room 3407 in order to introduce the holistic strategy for educating architects towards innovative architecture. In this context, the “innovative” has been recognized as creative production of the “new” which has required the fundamental competence of relational thinking. Since this new formation of architect necessitates relational thinking, the studio culture in Parallax Room 3407 has been structured according to the “learning to learn” paradigm which has become more important than specific knowledge learned. On the other hand, today architects have been educated in the digital era, having to be aware of the interdisciplinary issues of architecture. In educating architects towards innovative architecture, critical thinking is therefore crucial for learning to learn that leads to lifelong learning.

The studio culture based on the critical thinking and representation ability has been the backbone of the design studio for educating prospective architects towards innovative architecture. It is thought that the architects might have the ability to build abstract relationships and understand the impact of ideas based on research and analysis of multiple theoretical, social, political, economic, cultural and environmental contexts. Parallax room as a peda-





**Figure 8.** 'Reading the city' / (narratives on İstanbul) focusing on Taksim Square by Bilge Akçaoğlu and Emirhan Altuner.

gological unit could be considered as a production and sharing atmosphere grounded on collaborative understanding and learning culture. Thus, learning through the parallax thinking has been shifted by inquiry - discovery game; and pedagogical expansion of "learning how to learn" made this atmosphere lively. The mutual relationship between teaching and learning has proceeded in dialogue, in other words dialectical relations. This intellectual atmosphere has been created by dialectical relationships as well as the inquiry - discovery interplay. This atmosphere as a learning environment has provided students 'to think something different' by manipulating all types of design knowledge and motivating them to metaphorical thinking.

This process within the learning environment could be named as "learning by experience". It has been legitimated when the students have discovered the contradictions or inconsistencies of the multiple design issues through the dialectics of seeing and thinking. Furthermore, awareness that has provided a new way of thinking / metaphorical thinking, has a similar logic to what Thomas Kuhn calls "learned similarity relations." In order to enhance students' thinking processes, 'learning by experience' have become a fundamental strategy for developing metaphorical and relational thinking. In this context, relational thinking can be evolved using digital technologies that push the students to go beyond their imagination, which portrays possible experi-

ences. In Parallax Room 3407, relational thinking and metaphorical thinking have pushed students out of their habitual thought patterns so that they had looked at what they were doing in a fresh and innovative way. Besides, critical thinking has helped students to develop an articulated schema, looking at the subject from various perspectives, which in turn has made the relational thinking flexible and open to change. The outcomes of the studio culture as final projects has demonstrated that all these abilities (relational thinking, critical thinking, metaphorical thinking) could be picked up as a result of the design process and learning environment.

#### 4.1.3. Learning by doing

According to Hayne W. Reese, learning by doing has had many forms, including discovery versus instruction, practical experience versus book-learning, the practice-theory-practice dialectic, and proof upon practice. Furthermore, Dewey called for education to be grounded in real experience. In parallel to these approaches, the studio culture in parallax room 3407 has been

grounded on learning by experience that has motivated students to concentrate on learning how to think and understand. Motivation has been the key concept in this studio culture. Doing, discussing and presenting within the studio has motivated the students to be aware of “the reason why” which has included the ways of thinking and understanding. Studio culture therefore has emerged in both studio and existing environments where students expand their ideas with drawings, making models (both analogue and digital), montage and collage works, filmmaking, etc. are a variety of ways through which the students express themselves (their ideas and their knowledge). While the students began to learn by doing in such a way, they also have understood and transferred the design knowledge to everyday life practice.

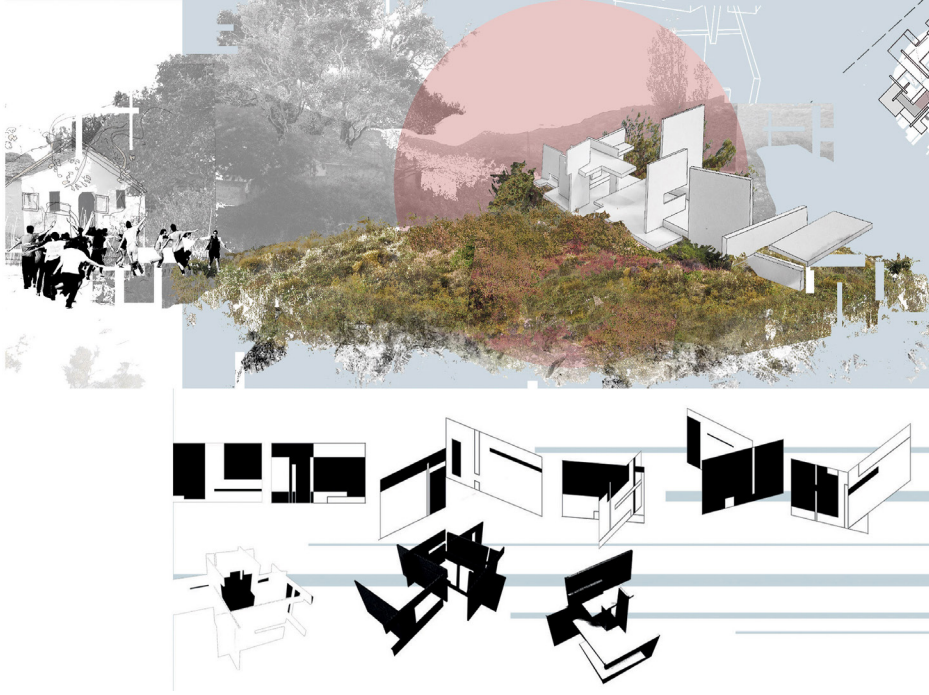
Learning by doing as a part of studio culture has developed flexibility in thinking and reasoning skills, as students have compared and contrasted various possibilities. As a result, students have learned to question ideas and knowledge through the process of comparing and contrasting alternative ideas and contexts. They have encouraged to be engaged in individual reflection in order to organize their design knowledge and understand architecture. Schön also defines the notion of ‘reflection-in-action’ as a dynamic knowing process consisting of strategies of action, understanding of phenomena, ways of framing the problematic situations encountered in day-to-day experience. Referring to Schön, students were encouraged to engage in reflection-in-action that help them to elaborate experiential knowledge and to build bridges to conceptual knowledge. (Schön, 1992)



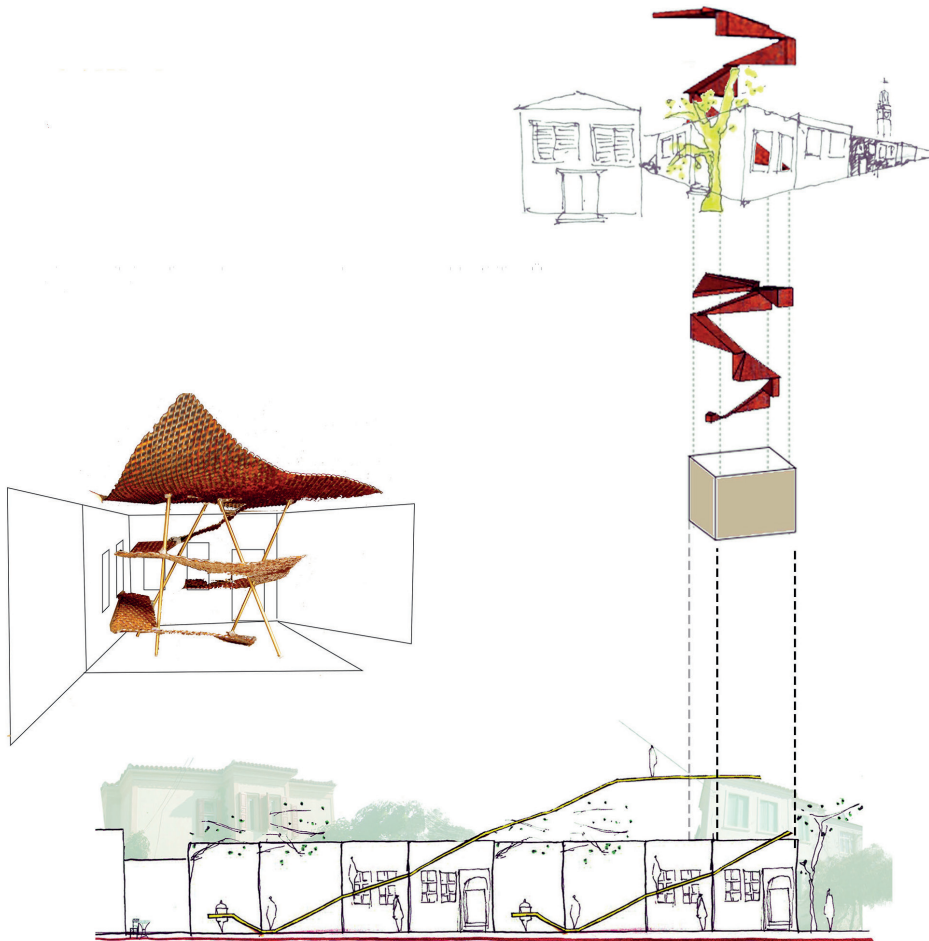
**Figure 9.** ‘Collage work by M.C. Arabacı, a detail from his design project “Red Journal: A journal refusing even what it has manifested!” in Ayazma, Bozcaada.



**Figure 10.** A section collage and preliminary model explaining the relationship with topography by B. Akçaoğlu.

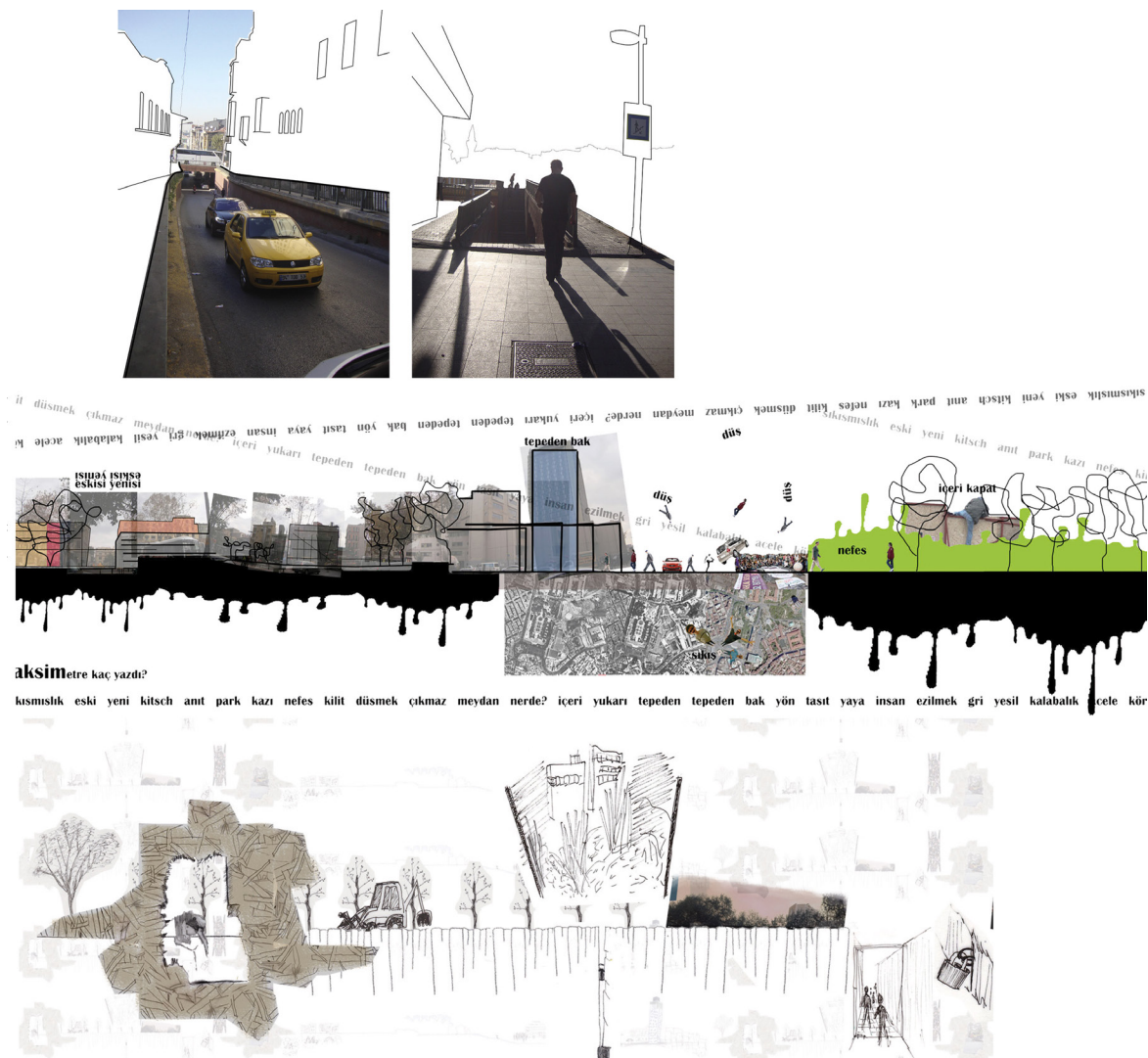


**Figure 11.** Ezgi Mutluer's Bozcaada Ayazma project "İnşaa.001" proposes an experience in which each visitor can construct a new perception through the spaces of a pattern constituted by vertical and horizontal surfaces.



**Figure 12.** Melike Yetim's Bozcaada project: "An Information Kiosk For Ayazma Traveler's Station". Unfolded section and exploded perspective.





**Figure 13.** Narratives on İstanbul: Şişhane, by M.Yetim; Narratives on İstanbul: Taksim Square, by N. Erinç; and Y.Yenice.

#### 4.1.4. Narratives on urban context

Reading İstanbul as a narrative have provided students to understand and interpret the architectural environment in relation to all of its dynamics. It is impossible to understand the paradoxical relations of the environment through the site analysis conducted in a conventional method. The narrative is constituted by thinking the ever transforming fragments of the city in relation to each other. Reading the environment as a narrative develop students' aesthetic sensibility and ethic responsibility while freeing their creative mind.

The discussion conducted in the studio about public space regarding the current debates, encouraged students to investigate urban patterns and to understand how the structures of social and cultural differences, natu-

ral and built topographies overlapped with each other. In doing so, students were asked to make cross readings of concepts<sup>2</sup> including 'rhythm', 'tension', 'border', 'limited/limitless', 'fracture', 'segregation', 'intervention', 'scale', 'event', 'memory', 'trajectory', 'pattern', 'transparency', 'layer-ed/layer-less', 'non-functional', 'vacant lots', 'creative destruction', 'spatial thresholds'... Moreover, they could add new ones if they saw related to their narratives. The aim of the reading exercises is to understand and imagine all the urban layers in relation to each other through the sections. Understanding the affordances of environment in depth and visualizing all the ideas and concepts through the relational sections in collage and montage works have broadened students' comprehension of design problems.

<sup>2</sup>It consists of both reading from the books, articles and from experiencing the environment.

Practicing narratives was not specific to Istanbul, but similar ways of reading the environment also took place in Bozcaada work. These experiences and exercises could be generalized and adopted to different environments to develop the student's ability and understanding to learn how to think and see environmental affordances for their design projects. The visualization of the narratives in a form of collage and montage works were based on the movement between objectivity and subjectivity of the relational experience. Instead of site analysis reading both natural and urban context as a narrative have represented the paradoxical reality of the environmental dynamics. It is crucial in understanding these paradoxes and holistic ways of thinking, and also how to transform a design idea into spatiality.

#### 4.1.5. Parallax<sup>3</sup>: Thinking with concepts

Parallax conceptual presentations organized in the studio were also readings that discussed some of Steven Holl's topics, which he uncovered in his book 'Parallax'. Through the topics 'Speed of Shadow', 'Elastic Horizons', 'Time/Duration', 'Correlational Programming', 'Enmeshed Experience', 'Chromatic Space', and 'Porosity' Holl discusses the deep meanings of concepts such as horizon, spatiality, perception, program, velocity, temporal-

ty, shadow, light, and color deciphering them within interdisciplinary fields, and in relation to their scientific descriptions. Through these concepts and phenomena, he examines how the ways of seeing and thinking change. Involving tangible and intangible values, he offers a way of re-reading the architectural phenomena and urban layers. Students in 'Parallax Room 3407' were asked to examine, interpret and discuss these topics in relation to their own design projects. Since parallax presentations correspond to the end of the semester, their design projects were already in a mature level and students were able to discuss Holl's titles in terms of their own design proposals. Below are stills revealing their experiments in sequences from the short films or animations which they prepared on Holl's subtitles<sup>4</sup>.

<sup>3</sup>Parallax has taken astronomy out of solar system. Parallax is the change in the arrangement of surface that define space as a result of the change in the position of a viewer. Parallax is transformed when movement axes leave the horizontal dimension. Vertical or oblique movements through urban space multiply our experience. Spatial definition is ordered by angles of perception. Historical idea of perspective as enclosed volumetrics based on horizontal space gives way to the vertical dimensions. Architectural experience has been taken out of historical closure. Vertical and oblique slippages are key to new spatial perceptions.

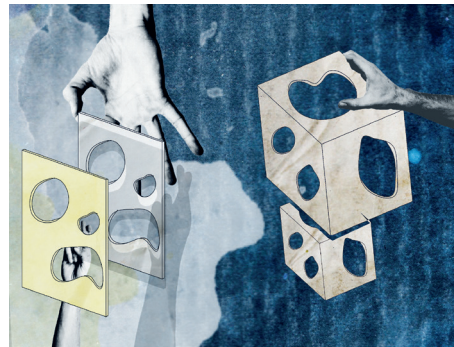


Figure 14. Parallax Conceptual Presentations. Excerpt from the short film discussing 'Porosity' by A. Aggündüz.

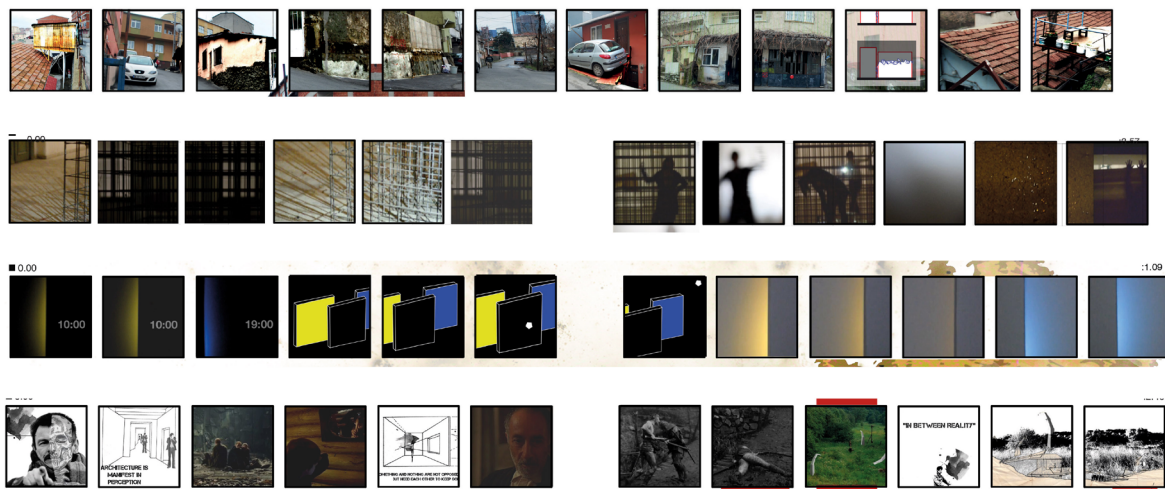
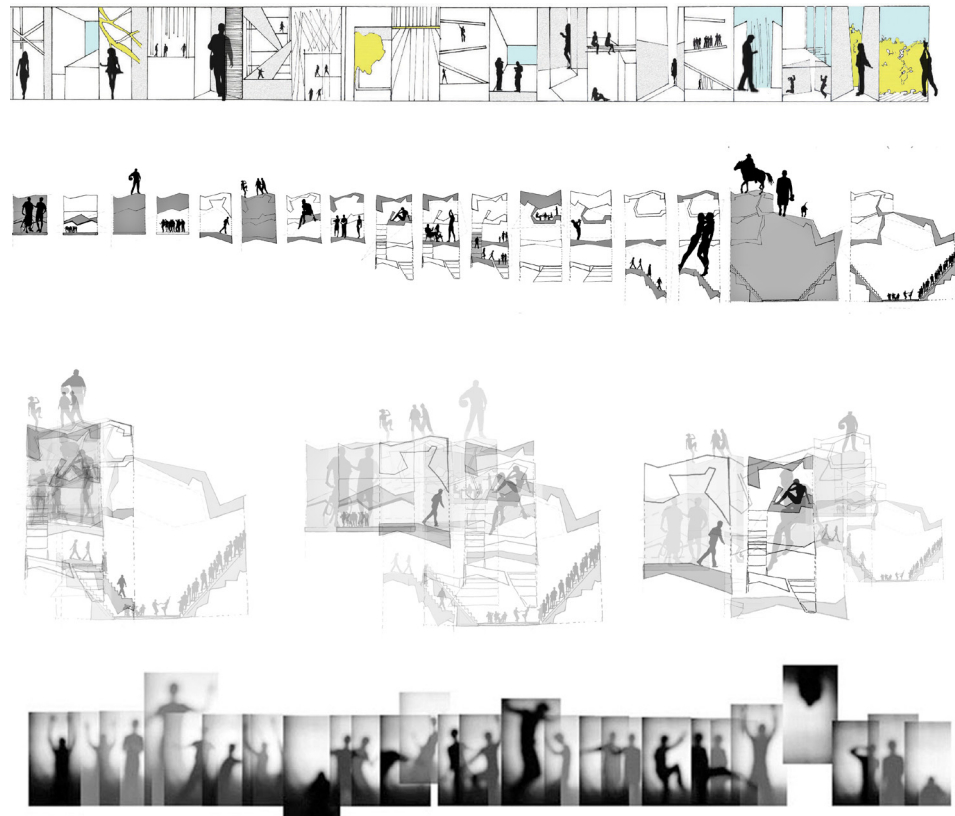


Figure 15. Parallax conceptual presentations. Excerpts from the short films discussing 'Correlational Programming' by M. Yetim and E. Erenoglu; 'Speed of Shadow' by E. Altuner; 'Chromatic Space' by B. Akçaoğlu and M. C. Arabacı; and 'Enmeshed Experience' by M. Arslanoğlu.



<sup>4</sup>According to Steven Holl, the movement of the body as it crosses overlapping perspectives formed within spaces is the elemental connection between ourselves and architecture. The "apparent horizon" is a determining factor in the moving body's interpretation of space; yet the modern metropolis often lacks this horizon. Sequential experiences of space in parallax, with its luminous flux, can only be played out in personal perception. The turn and twist of the body engaging a long and then a short-perspective, an up-and-down movement, an open-and-closed or dark-and-light rhythm of geometries are the core ideas of the spatial experience in architecture. There is no more important measure of these perceptual forces in understanding the potential of architecture (Holl, 2000).



**Figure 16.** Bozcaada Transcripts by M. Yetim, A. Aggündüz and E. Altuner.

#### 4.1.6. Thinking by representing

In the architectural design studio, representation could become a manifold instrument, a tool for thinking, imagining, understanding and visualizing. Here in the Parallax Room 3407, it has been a powerful tool in thinking and discussing issues, expressing ideas and presenting projects regarding different trajectories of studies. The 21st century presents architects and students with a new range of technologies which can be used to enhance learning how to learn and how to design. Students have developed their own representational techniques for each experiment, bringing digital and analogue uses together and generating creative ways of representing. The relationship with digital world enabled the students to discover new ways of seeing and thinking. The transitions between digital and analogue world, interwoven relations, interface formations gave rise to the development of competence to view things from different perspectives.

Conventional representations are not enough to transcribe an architectural experience. The students were encouraged to use photos, screen im-

ages, overlapping drawings, collages and montages to support their imaginative experience that is impossible to comprehend through conventional representation techniques. Like others, sequential narrations were an inspiring part of the creative process. In order to deal with the difficulties confronted in transforming design ideas and concepts into architectural space, and to embody spatiality, students instrumentalized Bozcaada Transcripts. This experiment referred to Tschumi's pioneering work Manhattan Transcripts and was also a study of rethinking it. (Tschumi) In the transcripts, the spatial experience is formed by a sequence of images that unfolds before the eyes of the observer as he/she gradually advances through the built environment.

Transcripts are tools for narration, which can be considered as the counterpart of the spatial experience, an expression of reflexive thought and imagination, having potentials of transforming into an architectural design program. Transforming spatial narrative / web of events into design program exercises make the transition possible between the concept and ar-

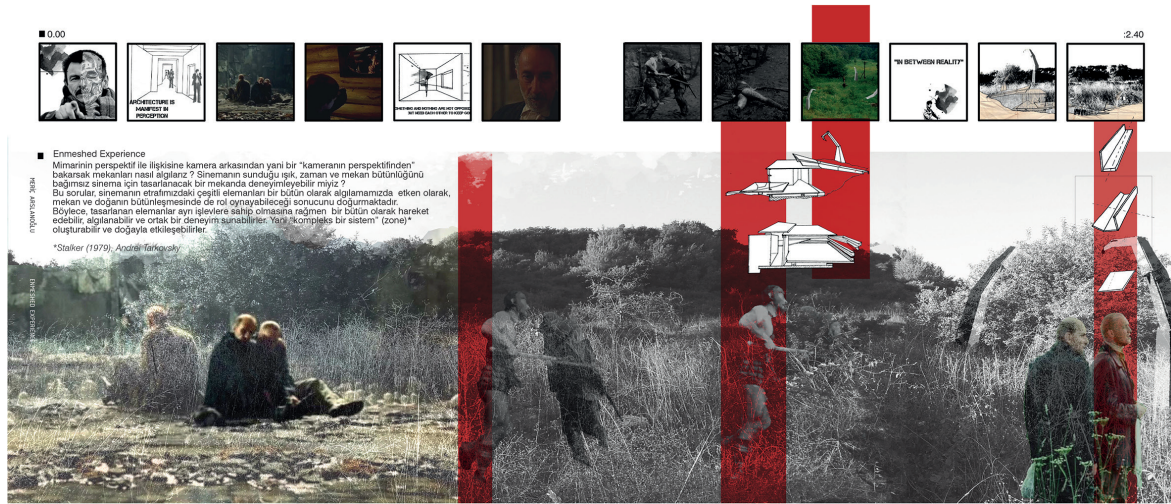


Figure 17. Conceptual presentation "Enmeshed Experience" by Meriç Arslanoğlu.

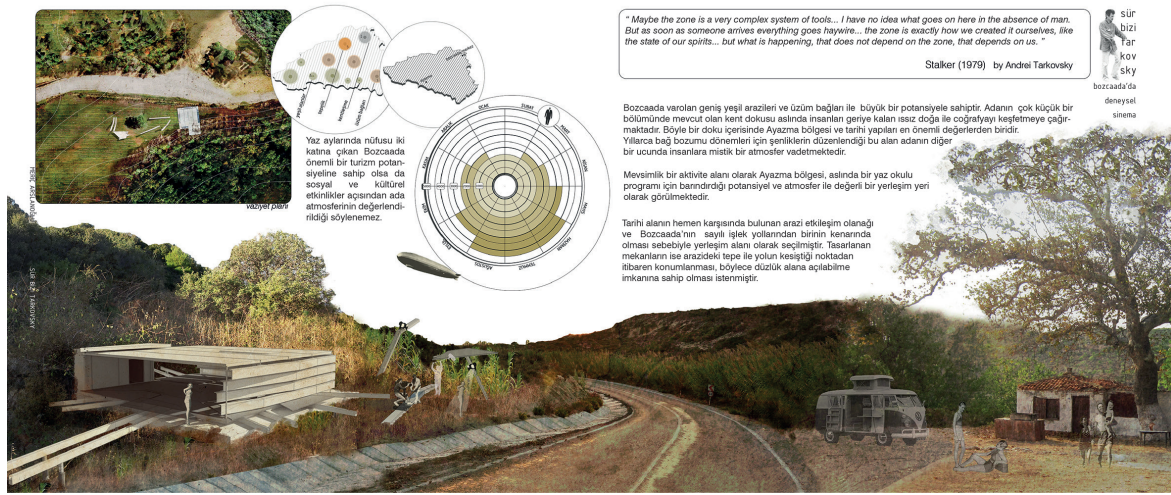


Figure 18. Site specific design reflections on architectural design project of the final submissions by Meriç Arslanoğlu.

chitectural form. All the exercises such as understanding and interpreting both natural and built environment through sketches; collage and montage works; cognitive maps; conceptualizing and visualizing exercises set the ground (connotative, associative, articulated background) for transcripts.

### 5. Concluding remarks

Generally speaking, contemporary crisis of design education arises from the lack of critical thinking that activate students' mind, soul and body for various design possibilities. A paradigm shift happens in which the ability to think and to act innovatively brings teaching and learning together into a transformative action. In Parallax Room 3407, this transformation has occurred within a dialogue, an empathetic way of teaching and learning,

through which relational thinking enhance critical thinking. It is possible to understand this paradigm shift of studio culture to be specific to Parallax Room 3407 in which some questions and possible responses about it arose in a non-linear pathway. The priority was given to awareness, motivation, curiosity, inherent understanding and internalizing knowledge at the studio in order to enhance learning ability. Moreover, the suggestion of "Creativity is to think something differently." encouraged an intellectual atmosphere and proliferation of fresh knowledge.

In short, it brought about us to apply the process-centered / learning-centered education strategy and to develop tactics. This atmosphere created in the studio motivated conceptualizing, visualizing, modeling experiments to embody design ideas.





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