R Koray Gökan

Environmental perception: An assessment of an experimental basic design atelier for students of architecture

Abstract

First year architecture students participating in a basic design atelier are assessed in 'visual design activities'. In several assignments students were expected to acquire and to visualize their 'environment'. Visual design activities are derived from perceived environmental phenomena. Such activities are also based on students' own yet limited experience in visual expressions. Basic Design is dependent upon the masterly use of students' own vision. The information gained from physical aspects of phenomena is substantial to understand their formal and spatial functioning. Students' personalities and preferences are inevitably involved in building aesthetic decisions. Students are expected to gain experience in changes in 'art and design', as well as 'environment and space'. The progress is witnessed in: a) The development of personal inquiry following several trials; b) intuitive and analytical work; c) responses to environmental changes; d) subjective preferences and aesthetic judgments.

Keywords: Design atelier, visual design activies, spatial functioning, individuality, intuition, aesthetic judgement.

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OMGEWINGSPERSEPSIE: 'N WAARDEBEPALING VAN 'N EKSPERIMENTELE BASIESE ONTWERP-ATELJEE VIR ARGITEKTUURSTUDENTE

Eerstejaar-argitektuurstudente se deelname aan 'n basiese ontwerpateljee word in oënskou geneem ten opsigte van visuele ontwerpaktiwiteite. In 'n aantal van die take word daar van die studente verwag om hul 'omgewing' waar te neem en te visualiseer. Visuele ontwerpaktiwiteite spruit uit die waarneming van omgewingsfenomene. Hierdie aktiwiteite is gebaseer op studente se eie, hoewel beperkte, ervarings in visualisering. Basiese Ontwerp berus op die bemeestering van 'n student se eie visie. Die inligting wat bekom word van die fisiese eienskappe van verskynsels is nodig om insig te bekom vir begrip van formele en ruimtelike funksionering. Studente se persoonlikhede en voorkeure speel noodwendig 'n rol in besluitneming rondom gebou-estetika. Daar word van studente verwag om ervaring op die doen in veranderinge in 'kuns en ontwerp' en ten opsigte van 'omgewing en ruimte'. Die proses word waargeneem in: a) Die ontwikkeling van individuele ondersoeke na verskeie probeerslae; b) intuïtiewe en analitiese werk; c) reaksies ten opsigte van omgewingsverandering; en d) subjektiewe voorkeure en estetiese oordele.

Sleutelwoorde: Ontwerpateljee, visuele ontwerp, ruimtelike funksies, individualiteit, intuïsie, estetiese oordeel.

Introduction

A clarification of certain fundamentals and constant concern and inquiry about the substance and method of instruction of a Basic Design Atelier outline make up the contents of this paper. For this purpose, an experimental Basic and Creative Design 'course of training' has been programmed at the department of Architecture, Istanbul Kültür University, and the program is presented in this paper with its consequential visual products. Conclusions are drawn in terms of principles emphasized and concepts recovered and then presented for discussion.

Basic Design Atelier is a first semester requirement for the first year architecture students. They are at the entrance of the world of design with a very strong yet somehow bewildered wish to become a designer, but with little or no experience and sound knowledge of any kind in any related fields. It should be realized that it is rather unusual to launch these students immediately into the world of visual art, questioning then about both environmental phenomena and visual expressions of such phenomena.

Basic design activity

In the Atelier, Basic Design is in reality an introduction to a field of which extensions can be design of any kind: in our case it is architectural but it can be urban or even mechanical design (Smithson & Smithson, 1967: 15-69). It cannot be comprehensive and complete training; and

yet, the intention is to formulate an introductory course as creative, constructive and stimulating as possible. It should also be realized that it is not easy to get the student to start working right away. One cannot ask any student, who has not had much experience even in drawing, to express himself and his thoughts instantaneously on a piece of paper. It may be perhaps necessary for such students to be constantly active and looking for such knowledge and skill. In fact, this has been the basic goal of the Atelier and the basis of our inquiry and experiments into the content and method of instruction.

In the Atelier, students are provided with an atmosphere where they are confronted with the problems of basic design and start formulating their inquiries towards the ends of almost limitless extension in accordance with their personal variation and individual emphasis. In the beginning, for a short period, they need to accept what they can find at the Atelier; yet, it is necessary for all students to prove the dependability of what they accumulate; furthermore, they ought to look for additional knowledge and skill to complete their training.

It is a fact that changes and developments are taking place constantly in the visual arts (Sausmares 1965:9-12). Such significant phases of development in all art subjects and also in the field of architecture, social, commercial, and industrial design, inevitably necessitate revisions and extensions in the training of students of basic design. The nature of art and design is strongly and permanently affected. In fact, one can object to any traditional academic training especially that of which basic aspects become meaningless within the terms of the rapidly changing social and cultural life patterns of towns and cities (Spreiregen, 1965: 29-48).

We may approach basic design in an environment as sketched below. It is:

- Primarily a form of inquiry and reaction to environment
- An attitude of individual minds
- An inquiry into environmental structures (basically physical but conceptual as well)
- An inquiry into the foundations and settings of personal expression and reaction to the environment around us
- Concerned with visual expressive forms (and their functions) and requires intensive rethinking of our attitude to 'realism' or practicality

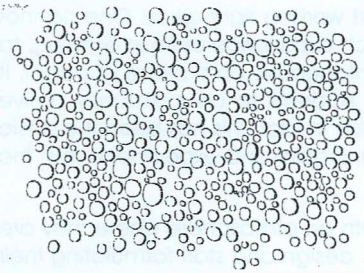

Image 1a: Basic Design Language assignment: 'Dots'

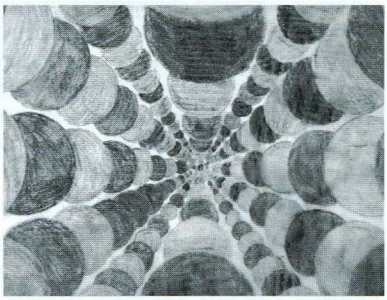

Image 1b: Basic Design Language: 'Dots' centre'

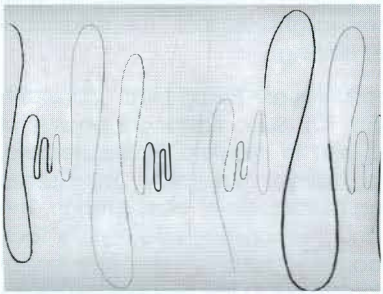

Image 1c: Basic Design Language: 'Rhythm of lines'

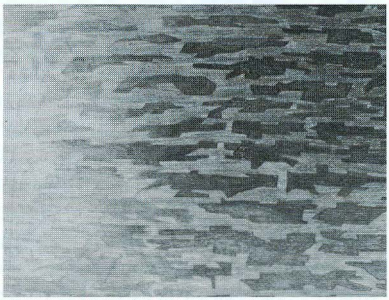

Image 1d: Basic Design Language: 'Rhythm of shapes'

Image 1e: Basic Design Language: 'Light'

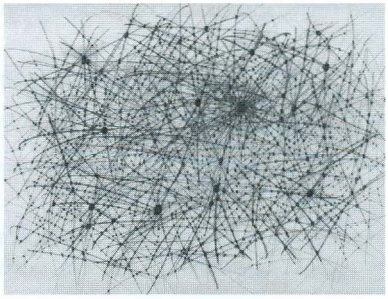

Image 1f: Basic Design Language: 'Dots and lines'

- Helping individuals to develop means and makes them aware of expressive tools and resources at their command. *Image 1* illustrates Basic Design Language
- Cultivating individual inquisitiveness about environmental phenomena
- Fostering personal reactions and preferences and thus building up a better visionary world.

At the Atelier, the factors that seems to dominate and affect both basic design activity and thus ideas of training is that it has been accepted that only information derived from students' own experience can be considered valid for their visual expressions of any conceptual or physical material (Luke, 1996: 5). Such thinking may sometimes lead one to reject conventions (Standler, 1998: 3-5). In case the information is restricted to the visual facts, the information we gain from an appreciation of the physical aspects of any material becomes significant in understanding its formal and spatial functioning, Basic Design is dependent upon the masterly use of the designer's own vision, and all other associations are supplementary. The designer's total personality and preferences are inevitably involved in making aesthetic decisions about any and all individual expressions (Sausmares, 1964: 12). Art changes its character sequentially and emphasis in accordance with the intellectual and emotional concepts of the period is contemplated (Itten, 1975).

Having completed six years of experimental training at the Atelier, certain consequences of the principles above can be summarized as follows:

- Each person's fundamental training in creative design or in basic design should be based upon and develop personal inquiry on the basis of practice and more practice *(Image 2)*
- Each problem situation requires always seeking individual solutions, (*Image 3*)
- It emphasizes intuitive and analytical work with materials in compliance with formative principles (*Image 4*)
- Students' primary concerns are a visual responses to what is taking place in their environment (*Image 5*)
- Visual decisions will be dependent on and inevitably influenced by subjective preferences and the psychology of the individuals (*Image 6*) (Feldman, 1992: 7).

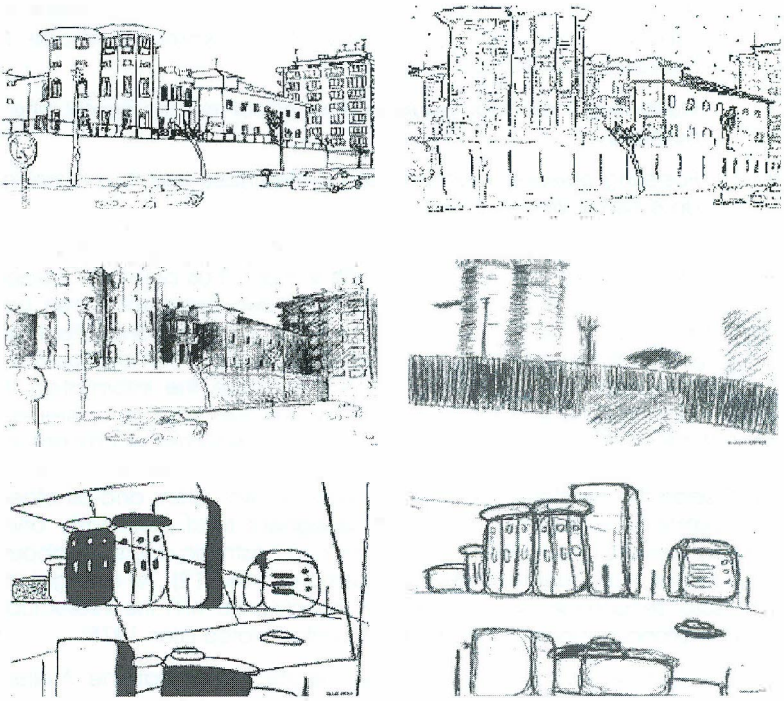

Image 2a-2f: Basic design work is an iterative and tiring process

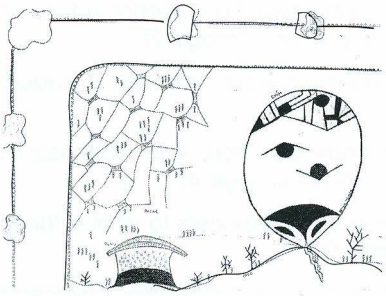

Image 3: 'My home is a balloon'

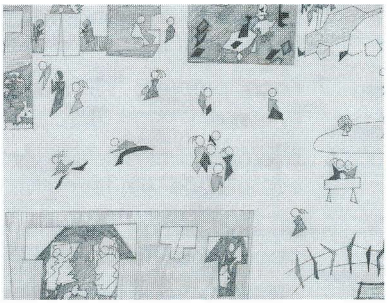

Image 4: 'Various activities of my family at home and in the neighborhood'

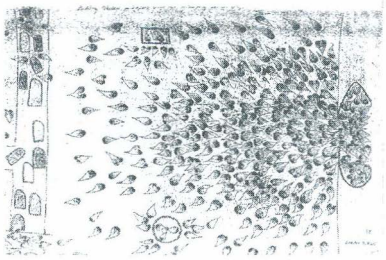

Image 5: 'Folk disembarking a passenger boat'

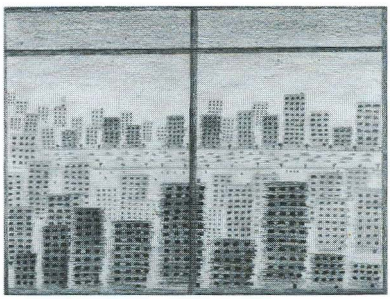

Image 6: 'A town view through my window'

It should be remembered that training at the Basic Design Atelier of the department of Architecture, Istanbul Kültür University, is an introduction to the fundamental concepts of art and design and, simultaneously, of environment and space. To revise our approach to such initial training and attempt to reflect and interpret the new problems evolved, constant and critical thinking about the nature and content of the Atelier should occur. At the Atelier, a specific and influencing environment for students' 'creative activities' is crucial. The danger is the creation of a frighteningly consistent, entirely self-sufficient and new academicism for young minds to follow a short route to design activities (Standler, 1998: 7-9). To avoid such an outcome the Atelier constantly pursues, in its design activities predominantly visual data collection and analysis-involved methods followed by the processes of expressive and communicative creative synthesis which have proved to be appropriate training processes in the majority of cases.

Looking at things and sensing the environment around us

Most of us do not lack the ability to look at and see actions or physical substances around us (Gökan, 1999[4]: 56-68). That is, our bodily sensations (namely: sight, hearing, taste, smell and touch) undeniably have pro-found effects on our perception of the environment around us (Feldman, 1992: 79-81). Yet the presence of such a fact does not clearly illustrate whether all of us can really comprehend what we look at and see it properly (Gökan, 1999[4]: 58-59).

We are, of course we are sensitive to everything within the environment. We can respond to the environment or its components only through the information we can accumulate through our senses (Feldman, 1992: 138-139). In fact the information our brain absorbs in through its senses, and the ways in which we interpret such information, are impor-

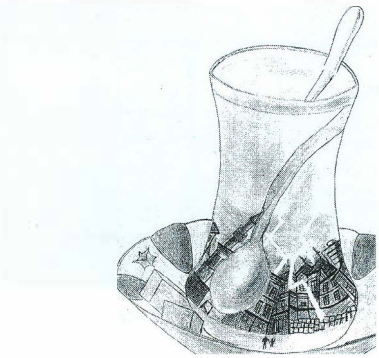

Image 7: '*Home sweet home* in my tea glass'

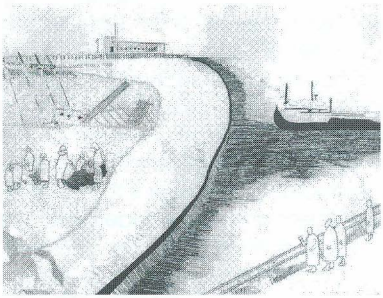

Image 8: Environmental pollution and clearance workworkers at Marmara Sea

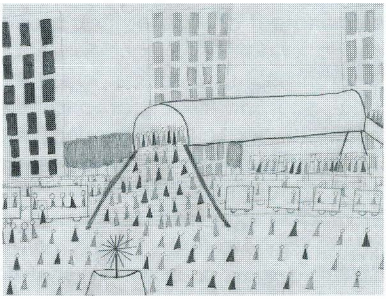

Image 9: Environmental issues as perceived by the students: 'Pedestrians crossing a street'

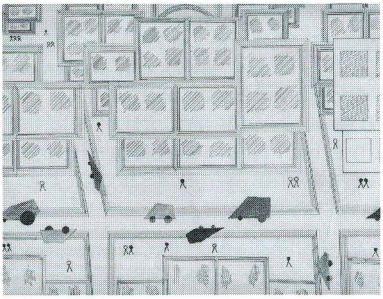

Image 10: Environmental issues as perceived by students: 'A cross-section of a modern city'

tant components of the ways we react to the environment. In our case it is a training program enabling the students of architecture to gain indispensable knowledge and skill for the basic design process. This is why students in the Basic Design Atelier are involved in sensation, the process by which they respond to events and physical objects which make up the environment, and then the sorting out, interpretation, analysis and integration of the information accumulated.

To us, who are interested in providing a training program to the students aimed at basic and creative design, sensation and perception are fundamental, since our main concern is to understand how the students react to and interpret their environment (Aksoy, 1987: 62-63). Indeed, the questions range from identifying the fundamentals of the environment, understanding how they realize whether what they see is a vital aspect of the reality and how they distinguish the different aspects of the envi-ronment from one another. Then we need to reconsider whether all of these fall into the realms of our Basic Design Atelier. We define percep-tion as the process by which the sensory information about the environ-ment is interpreted, analysed and integrated into a new organized knowledge (Feldman, 1992: 109-122).

In our Basic Design Atelier we ask the students to concentrate on collecting information about a defined environment whether within the limits of its physical appearance or within the limits of the events taking place. The students accumulate information about the specified environment within their different levels of sensual capabilities. Eventually the students are expected to ask what they have recognized and what their meanings are.

The students usually begin their assignment by identifying the physical objects that make up the environment specified. The sensitivity of the students to the physical objects making up the environment varies to the degree to which different levels of individual natural abilities and their interest in their perception, that is how the interpretation, analysis and integration of the information are shaped into a new organized knowledge. Eventually, various kinds of responses are elicited from one student to another (*Images 5* to *10*).

There are certainly a number of issues to be discussed in relation to these environmental perception trials of the students. One needs to discuss how the students organize the way in which they accumulate information, and how they are to achieve and make active a sense of the environment they experience for a specified or limited period of time. In essence, sight and the other senses are not the only factors that influence the perception of the environment. Students' expectations, their previous knowledge, and the changing nature of the physical compo-

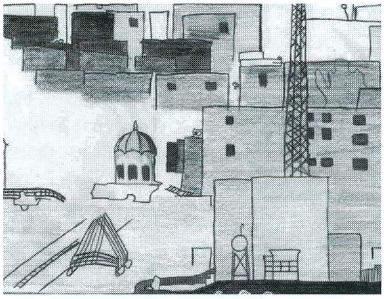

Image 11a: At Golden Horn: the Water Front

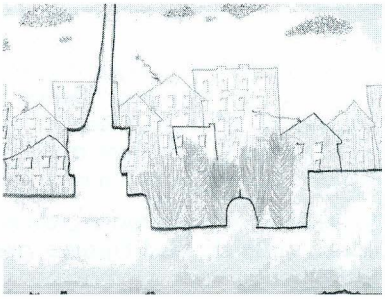

Image 11b: Bulgarian chuch at the Water Front

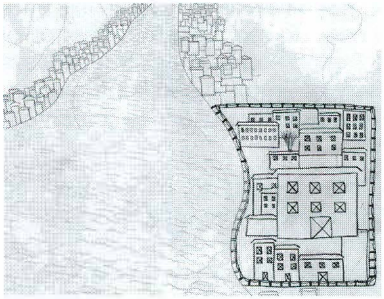

Image 11c: Navy headquaters at Golden Horn

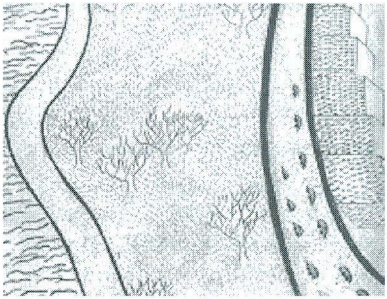

Image 1d: A cross section of Golden Horn

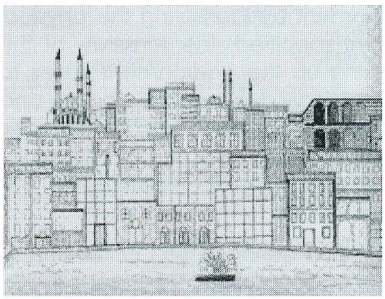

Image 11e: Built up, densely populated area at Golden Horn

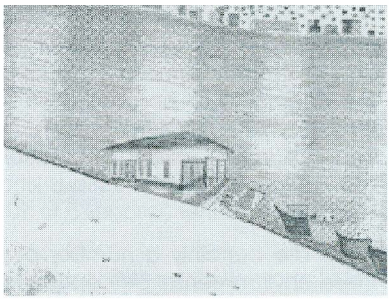

Image 11f: An old passenger boat station

nents of environment and of environmental concerns all affect their detection capabilities (Feldman, 1992: 122). Conceivably, we need to consider the individual visions of the students in any attempt to perceive the environment. In addition, there are many other issues to be considered. Do the students of basic design need to retrieve information from memory and use it to devise solutions to their problems? How is the information accumulated and transformed into a new organized knowledge and how is such knowledge developed and utilized for basic design? What kind of language do the students of basic design need to develop to describe the environment they would like to recreate? When such issues are discussed then one might arrive at important clues for understanding the general environmental perceptual mechanism and ultimately the basic design process. Phenomina at the Golden Horn are visualised in *Image 11*.

Information collected next to information retrieved from past experiences

To become familiar with the environmental phenomena under being studied, students observe and collect information within a limited but defined period of time. In addition to the information collected as a result of their perception of the physical components of the events taking place within the environment, students of course retrieve (however unwillingly) knowledge from their memories (recollection of similar experiences). From information collected both from observation and past experiences, students devise new constructs or, one could say, solutions, to their specific problems about the (environmental) phenomena under consideration. In any case, knowledge retrieved from memory and information collected from observation (or from the last and recent experience) is elaborated upon and readied for utilization. Such a process requires a higher mental process from the students (Feldman, 1992: 119). Students have of necessity to deal with questions related to such a mental process in the atelier. In order to realize their environment, they process information collected and knowledge retrieved, make judgments and decisions regarding the re-organization of knowledge of their environment and ultimately describe their new knowledge and present it comprehensibly to others.

Of course without memory by observation and its consequential experimental information (i.e. information based only on phenomena experienced) alone, students cannot build new constructs, it would simply be impossible. Students cannot build solutions upon new experiences alone; they need to adapt their knowledge in their memory to new experiences and the information collected (Feldman, 1992: 186). Certain information is recorded in a form that can later be used by students in forming new constructs. This is what we may call 'organized knowledge

and facts about the environment around them'. Information collected from individual incidents (different experiences they have), inevitably have them recall what they have experienced in the past. In fact, retrieving information from memory signifies collecting information abstractly, relying only on specific images recorded in past experiences either conceptually or visually. They would likely recall such images they have seen before when absorbing a similar environment and its constituent parts. Events taking place in the environment recall experiences so as to record information.

Processing information

The process of information acquisition: a data analysis

One of the main questions emphasized is how and to what degree new information (knowledge) is mentally analysed by students (Luke, 1996: 1). The amount of information that is processed during environmental observations and then images, which are initially encountered by each individual student are central in determining how much of the information they ultimately use in their basic design process. The depth of processing during the students' exposure to environmental events and visual images is critical. Each student differs (or requires a different amount of information processing). In analysing and considering new information, the greater the intensity and the amount (and the longer the time allocated for observations) the more likely it is that students will be successful in their basic design process. Because students do not pay much attention to the information to which they are exposed only a brief (mostly inadequate) mental processing takes place, they tend to forget most of the information before the basic design process takes place (Gökan, 2001[5]: 137-142). However the information to which they pay more attention to is processed more thoroughly. Therefore, this 'mental processing' occurs at a more appropriate level.

In the beginning when the environmental phenomena are encountered, the information collected is processed merely in terms of physical shapes. Then such physical shapes are translated into meaningful units and ultimately such units are considered in the context of new organization of knowledge. New organized knowledge is realized only when the processing involves analysing information in terms of its meaning. Students' synthesizing skills in combining existing information in a new way is in fact the indispensable mental process outlining interpretation of visual information distinguished by individuals' inductive and deductive thinking. Such new organized information may be then seen in a wider context and associations between the meaning of the newly organized information and the information perceived from past experiences (and the information and the broader networks of knowledge)

may be drawn (Lynch, 1960: 120). This, in fact, is the forming of a new image of the environment, relating to the students' own lives. The longer the environment is observed and experienced and the longer each individual student processes the information, the deeper the specific information is processed.

After several trials the students realize that the best and the most appropriate way to analyse new information is to consider it thoroughly when they are first exposed to it, reflecting on how new information relates to information that they have at the time. This information processing involves active and continual mental processes in order to visualize, and account for, all environmental phenomena around them. Such a concept of 'environmental perception' would be considered conceived as being from a phenomenological point of view and should be reflected to develop students' skills in analysing information collected through the perception of physical phenomena. This analytical skill is essential for an effective evaluation of new information that has potential and worth further work (Denel, 1981: 20-21).

Visual artful and creative design is based on perceived visual phenomena, called environment and activities related to conceptions of environment. Since this activity is also based on experience and memory, the design is placed within both the perceptual realm and the conceptual realm (Denel, 1981: VII-XV). In fact, many of the terms used to describe mental processes utilise terminology from visual experiences. This is particularly true for basic design; an activity that can be examined both perceptually and conceptually (Denel, 1981: 7-9).

Creavity-the process of visual expression of thoughts

Transmission of information into new organizations: construction of new organizations of knowledge

In the Basic Design Atelier students are guided towards accomplishing things they have never done before. In particular instances, basic design requires 'newly organized knowledge'. A certain degree of intelligence (both ability to learn and ability to think) is required. Most of the students who end up with 'creative' design works have the capacity to learn and a desire to think. *Image 12* illustrates the visualization of thoughts on environment. By just looking at any environmental phenomena for a moment in time, a good student can only collect simple 'static' information. To appreciate the phenomena students need more 'dynamic' information in detail. Conception of 'new knowledge' is that only a product of 'dynamic' knowledge where students' desire to think has a significant role. In order to see, one has to look at the phenomena and to reflect on it. Thoughts are products about what they see. One of the

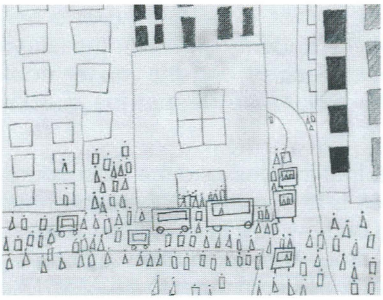

Image 12a: Visualisation of apartment buildings

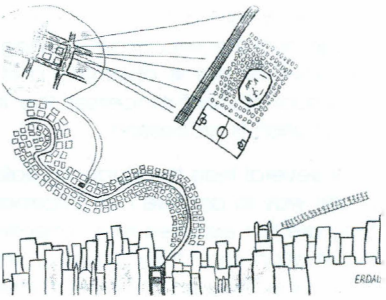

Image 12b: My home is near the football stadium

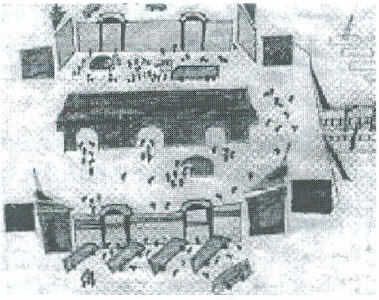

Image 12c: A historical town square

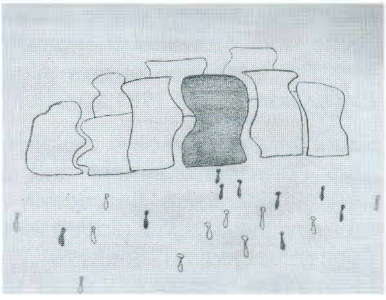

Image 12d: People and their houses

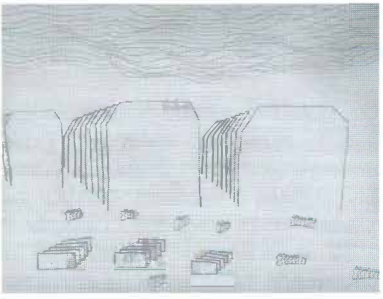

Image 12e: Rows of buildings and rows of people

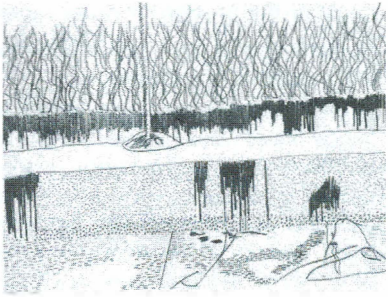

Image 12f: Petrol waste on Marmara beach

principal ways for students to be 'creative' is to look for alternative ways to observe the phenomena and for alternative ways to ask questions. Logical analysis of answers comes later. This is an iterative and tiring process. Any student who can afford such repetitive trials, with no guarantee of any successful outcome, may obtain 'newly organized knowledge'. In fact, it is easy to ask questions that are not worth solving. It is also easy to ask questions that require some effort and also have answers that are worth knowing.

An example of such an effort is (*Image 13*) where historical buildings of the Halic (Golden Horn Estuary in Istanbul) were being illustrated. After several trials, the students transformed a common and unfriendly building mechanism (a crane) to a useful product to express a common fear that such nostalgic historical buildings of the Halic are in danger of being demolished for new developments.

Another example of such an innovation is where development of an organization with various lines is distinguished to illustrate deterioration of the environment as perceived in certain parts of Halic. Application of 'symmetry', to express the reflections in the water, turns the illustration with such an unpleasant subject matter into an artful composition.

Selected conclusive principles to summarize the paper

Environment: Personal space and privacy and personal problem solving

A favourable environment is a key issue to the process of students' visualization of thoughts. Many environments may not be suitable for such a process. An intelligent individual who can express his thoughts easily in one environment may find himself useless in another. The optimum environment for expressive students, we believe, is one in which they can observe the phenomena without obstacles. The environment created within the Basic Design Atelier, where students discuss, criticize and share diversified ideas of their own and those of the others, proved to be inappropriate since most of the students are too timid, fearful and apprehensive to become involved in the common arguments. They are therefore not keen to work within the atelier's structure. The teachers and the other students at the Atelier in general guide the individual students to find out how to organize new knowledge and focus their vision on the end product. Good students tend to look for their own private space where the physical features of such an environment have no significance, so that they can achieve the ultimate goal of visualization within the terms of their own vision (*Images 11 & 12*).

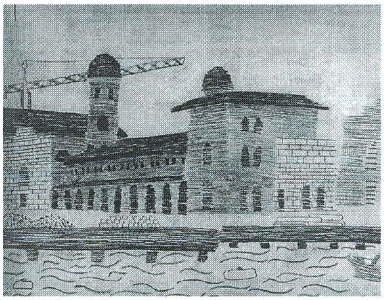

Image 13: Historical buildings at Golden Horn

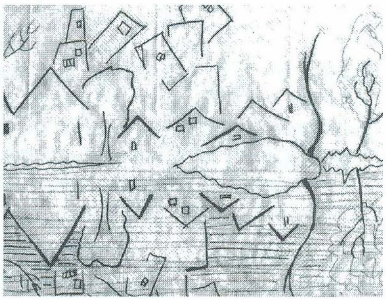

Image 14: Deterioration of the environment at Golden Horn

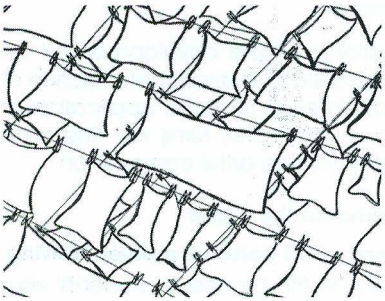

Image 15: Drying clothes on ropes

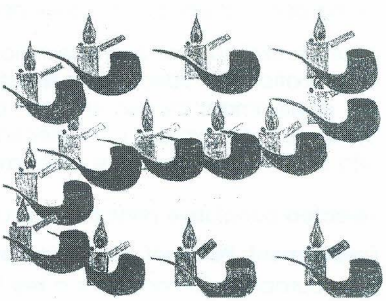

Image 16: Pipe smoking

The lecturers expect them to learn (experience at least) how to overcome problems concerning individual differences during the training program at the atelier (*Images 3 to 5*).

Individuality

Creative design work is essentially an individualistic enterprise. The end products are usually those of a single student. Individual students usually questions conventional information. Instead of accepting what the student sees passively around him/her, common assumptions and rules are questioned. Such an attitude also brings the student into conflict with what he/she has experienced before. In turn, this may bring the individual into conflict with other students. Individuality is essential to the process, however, students in the Basic Design Studio tolerates the conflict aroused between them.

Motivation

Students should set their own goals to enjoy their work. They have to 'sell' their ideas to other students and to the Atelier leader. This is the intrinsic or personal motivation. The students may also set as their extrinsic goals the receiving of praise from the Atelier leader or the gaining of fellow students' respect. Personal motivations are part of the process of the visualization of their work. Extrinsic motivations are however required with the end product since the leader's inevitable approval and grading will be the finalisation of the project. Nevertheless, it is not easy for the Atelier leader to grade students' work, and for training proposes, intrinsic motivations are seen as more significant than extrinsic motivations. Students seem to have a sense of motivation as a result of curiosity, enthusiasm and imagination (*Images 3 to 13*).

Personality

For the process of visualization of thoughts students need sometimes to be nonconformists. They need to take risks to challenge conventional or usual ways of doing things. Good students occasionally show the courage to resist the other students' and especially the Leader's objections and criticism, even in the face of ridicule. Nevertheless, in the Atelier, numerous occasions arise for students to question common conventional wisdom or to passively accepting that wisdom. They gain knowledge about not getting into conflict with people around them and some even sort out their own personality problems while at the same time they explore ideas that may be tentative, intuitive and difficult to communicate to others (*Image 13*).

A motivating methodical device is to visualize thoughts and to reorganize new data on the environment (*Image 15*). Only three elements are being illustrated, viz. ropes, hanging clothes and clips. The fourth element, the wind, is perceived conceptually as a result of such an enchanting 'new' organization. Again extra elements, e.g. smoke and the smoker, are conceptually perceived; however, they are not physically visualized (*Image 16*). The duration of the smoking is apparent, both physically and conceptually. This is also motivational.

New knowledge

Students are given opportunities to experience and recognize what is new to them. Reinventions and in certain cases 'copying' are not discouraged. Aiming at 'what is genuinely new' is not the ultimate goal of the Atelier. Discovering 'good' ideas, is to perceive the environment and to achievement of a sense of 'environmental consciousness'; awareness being our main goal. Over and above this students are

encouraged to be rigorous in their thinking and to provide themselves with an environment in which they are to learn and develop skills to figure out why a new idea is worth pursuing.

Bibliography

AKSOY, E.
1987. Mimarlikta Tasarim Bilgisi (Karadeniz Teknik Üniversitesi, Hatiboglu Yayinevi, Ankara), pp. 62-63.

DENEL, B.
1981 . Temel Tasarim ve Yaraticilik (ODTU, Mimarlik Fakültesi Basim Isligi, Ankara), pp. VII-XV, 7-9, 20-21.

FELDMAN, R.S.
1992. *Elements of psychology* (International Edition). University of Massachusetts-Amherst. New York/London: McGraw-Hill, pp. 7, 79-81, 109-122, 138-139, 186.

GÖKAN, K.
2001[5]. Mimarlik Egitiminde Çevre Bilinci Ögretisi (Mimarist, Yil1, Sayi2), pp. 137-42.

1999[4]. Mühendislik ve Mimarlik Egitiminde Çevre Bilinci-Gören Akillar, Düsünen Gözler (TMMOB Mühendislik ve Mimarlik Egitimi Sempozyumu, MMO Yayin), 232, pp. 56-68, 58-59.

ITTEN, J.
1975. *Design and form. The basic course at the Bauhaus and later* (Revised Edition). New York: Van Nostrand Reinhold.

LUKE, O.M.
1996. Some thoughts about the relationship between information and understanding. Internet: <www.asis.org/midyear-96/luke 1.html>, pp. 1, 5.

LYNCH, K.
1960. *The image of the city* Massachusetts: The MIT Press, p. 120.

SAUSMARES, D.M.
1964. *Basic design: The dynamics of visual form*. London: Studio Vista, pp. 9-12.

SMITHSON, P. & SMITHSON, A.
1967. *Urban structuring. London: Studio* Vista & New York: Reinhold Publishing, pp. 15-69.

SPREIREGEN, P.D.
1965. *Urban design: The architecture of towns and cities*. London: McGraw-Hill, pp. 29-48.

STANDLER, R.B.
1998. Creativity in science and engineering. Internet: <www.rbs0.com/create.htm>, pp. 3-5, 7-9.

Images

GÖKAN, K.
2001. Florya Tanker Kazasi 1999 – Florya Fuel Tanker Crash in 1999 (IKU Mimarlik Bölümü Temel Tasarim Atölyesi Çalişmasi, Istanbul Kültür Üniversitesi Yayinlari1).

1999. Temel Tasarim Atölyesi, Düsüncenin Görsel Biçimlenmesi - Basic Design Atelier, Visualization of Thoughts (Istanbul Kültür Üniversitesi, Istanbul).

1993. Temel Tasar Atölyesi -Basic Design Atelier (Mimar Sinan Üniversitesi, Şehir ve Bölge Planlama Bölümü, Istanbul).