

## **DESIGN PROCESS MODEL WITH STUDENT PARTICIPATION IN BASIC DESIGN EDUCATION**

Altay Colak, PhD, Cukurova University, The Faculty of Engineering and Architecture, Department of Architecture, Adana Turkey, e-mail: acolak@cu.edu.tr  
Tolga Uzun, Research. Asst. Cukurova University, The Faculty of Engineering and Architecture, Department of Architecture, Adana Turkey, e-mail: tuzun@cu.edu.tr  
Gulertan Akyuzluer, PhD, Cukurova University, The Faculty of Engineering and Architecture, Department of Architecture, Adana Turkey, e-mail: gakyuzluer@cu.edu.tr  
Mustafa Yegin, Asst. Prof. Dr, Cukurova University, The Faculty of Engineering and Architecture, Department of Architecture, Adana Turkey, e-mail: myegin@cu.edu.tr  
Ahmet Kochan, PhD, Cukurova University, The Faculty of Engineering and Architecture, Department of Architecture, Adana Turkey, e-mail: akochan@cu.edu.tr  
Ayberk Nuri Berkman, Research. Asst., Cukurova University, The Faculty of Economics and Administrative Sciences, Department of Economics, Adana Turkey e-mail: aberkman@cu.edu.tr

### **ABSTRACT**

Incoming freshman architecture majors, during the education process, begin to apprehend the different circumstance they encounter. Now, the formerly neglected space/environment relationship is nested with;

- observation,
- detailed analysis,
- problem detection,
- interpretation

In this context, the students' abilities to observe, to perceive, to interpret and to cope with problems pertaining to the expressions in Basic Design course are expected to be improved towards application. A variety of different thoughts and methods regarding that application are developed. Design Process Model with Student Participation is used in the First-Year Basic Design Education. Throughout this process, 4 phases are performed:

- Studio work
- Mid-evaluation in studio
- Homework
- Final Evaluation

In "Studio work", firstly, the students are informed on topic/concept. Then, synthesis studies on the given problems are expected to be carried out. Sketch Work which looms large in design process, provides the students with the opportunity of one-on-one discussion with the lecturers. At "Mid-evaluation in studio", the studies prepared according to designing criteria are evaluated. The students are encouraged to engage in course level assessment and argumentation upon chosen samples. Thus, comprehension of the topics is ensured. At "Homework" as the last application phase, the students provide materials for discussion on their own original interpretation followed by the presentation of their 3-dimensionally reconstructed studies. Throughout this process, their observations, analysis and problem detection studies should abide by criticism which takes place during studio application and mid-evaluation. "Final Evaluation" aims to rate the students' topic-related homework. Basic Design that serve as the basis for arts education would eventuate through application of conceptual expressions, visual and intellectual construction during fall/spring semesters of the first year. In this application: Within the scope of fall semester; the students in studio work are assigned problems consist of various elements such as point, line, plane, volume, measure, ratio, color, space and texture. With these, the students are expected to attain skills relevant to equipment usage, geometrical composition and

expression and communication process and designing. Within the scope of spring semester; the students are taught to recognize the relationship among pieces besides Gestalt Theory and design principles. During this process, the students are required to transform concrete concepts into abstract concepts. In both studio and homework applications, the students are expected to come up with designs which emphasize their levels of opinion, information and aptitude along with original solutions. The aim of this paper is to investigate and assess the implications of Process Model with Student Participation as an education method in relation to its positive contribution to the students' abilities to cope with the problems which they are more likely to encounter during topic comprehension/perception, analysis and synthesis phases. Since they participate in direct study evaluation, the students tend to yield information accumulation besides the improvement of acuity, comprehension and systematic cogitation. For this purpose, the students are required to become more active via participation. Furthermore; scope of the course, its presentation methods, comprehensibility and final achievement reflections are illustrated by the data obtained from survey questionnaire at the end of each academic year.

**Keywords:** First Year Design Education, Basic Design, Student Participation, Design Process, Learning Process

## **Introduction**

Most of the current elementary and high school curriculums in Turkey do not include theoretical and practical knowledge to be used during undergraduate architecture programs. Students with elementary and high school backgrounds mainly based on memorization and repetition are enrolled in architectural education programs. Most students with such backgrounds experience an enormous hesitation through orientation in higher education environment that aims at inquiry and creative thinking. Especially, when inquiry-based architectural education with constructive and creative aptitudes is matched with a student group which takes the lecturer's every instruction as given; students' comprehension of the education becomes even more difficult (Erkan, 2006).

The students' "awareness of what to design" within basic design education becomes highly crucial. They tend to be seriously floundered upon encounter with basic design courses and to experience lack of self-expression. In Turkey, "Basic Design Studio", as the place where digital information-based student community comes across design education for the first time, plays an important role in comprehension of design process for the students through eliciting self-disclosure and learning to think constructively.

Although a variety of methods have been applied in Basic Design education, they basically aim at increasing the student's ability to "perceive" and to "learn to think".

In this context, the students are expected to cope with various aims/circumstances in “presentation/expression” via learning “a new language” as a means of communication beside others they have already known.

The following main concepts are needed to maintain communication and comprehension for architecture:

- observation,
- problem detection,
- detailed analysis,
- interpretation

Basic Design course is planned in order to provide the students with the basic components and principles of architectural organization information (Divanlıo lu, 1997).

Throughout this course, abstraction of the concepts with which the students become familiar for the first time is achieved via inquiry, observation. This process is reserved for the exploration of architectural language.

The latest discussions regarding architectural education reveals the importance of learning by exploration in terms of creativity. Because, learning by exploration is clear of any type of conditioned responses, memorization, imitation and replication (Gür, 2000). As matter of fact, the student’s each design study brought forth by exploration is considered an invention per se. That invention provides the student with the opportunity for self-recognition and self-disclosure.

The main aim of this paper is to determine which paths should be followed by the student throughout their exploration, what to be explored and where.

For this purpose, requisite infrastructure to facilitate voluntary and creative designs of the architect candidates with basic conception manners creative designs is prepared.

### **Materials**

Communication in architecture is achieved with the help of drawings and models. In general, the students start out by getting familiar with line and using it from the beginning of their education.

Therefore, the expression initially formed by point-line experiences since the first lecture leads to a development their presentations through model studies in the sense of transition into 2 and 3-dimensional planes and volumes.

Also in Basic Design course; the students should clarify architectural materials and their purposes of usage and on a regular basis, despite the fact that those might have formerly been used for different purposes.

In this model, directly used materials, course description-related topics and information obtained from them are transformed into 2 and 3-dimensional outputs by students and lecturers with the help of various supplies ( colored paper, glue, utility knife, scissors, sketching paper etc.)

Design studio materials consist of several study equipments that students utilize such as technological devices ( PC, projector, etc.) and drawing board.

### **Design Process Model with Student Participation in Basic Design Education**

Architectural practices overrate “learning-by-doing” and “trial and error”.

In that context, the student’s abilities of observation, perception, interpretation and problem-solving regarding the expressions in Basic Design course are expected to be improved towards application. Critical approaches following those practice-based approaches play a crucial role during discussion period.

Regarding this practice, various opinions and methods are developed. The applied model in the First-Year Basic Design education is called “Design Process Model with Student Participation”. This process is performed in 4 phases;

- Studio work
- Mid-evaluation in studio
- Homework
- Final Evaluation

In “Studio work”, firstly, the students are informed on topic/concept and in studio; they are expected to perform an analysis-synthesis study on a given problem, namely “scenario question”. Furthermore, in this phase, design sketch which looms large in design process provides the students with the opportunity of one-on-one discussion on preliminary sketch studies with the lecturers.

Scenario question would be defined as the explication of a given theme within course subject. For instance, following the explication of “balance” as one of the main principles of Basic Design course, as scenario question, the student is requested to come up with a design with the inquiry of “I” concept.

The objective of the students here is to constitute the topic which they comprehend and contemplate on in correspondence with a given concept, rather than direct installation. Accordingly, studio mid-evaluation determines the adequacy of student’s comprehension of the topic (Figure 1).

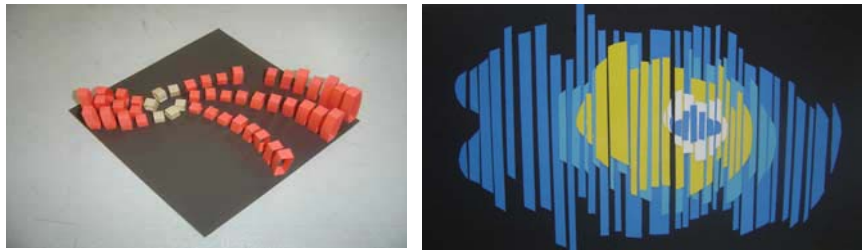


Figure 1. Student’s interpretation of “I” concept in “Balance” principle

In “Mid-evaluation in studio” phase, the assignments prepared in accordance with design criteria are evaluated. Studies that are performed on the chosen samples enable further evaluations through discussion forums with student participation. Student’s comprehension of the topic is aimed here.

A proper and accurate conception of critical approach within architecture, design and especially studio/education environments, consequently the basic characteristics of this approach such as exploration, awareness, learning and enabling the innovation path are crucially important (•entürer, 2004). Therefore, due to critical approach within discussion environment the students also seize the opportunity of self-inquiry for their homework with the help of rational-thinking and awareness.

“Homework” is the last practice phase. In accordance with the critiques and the newly-given problems during studio practice and mid-evaluation, students visualize their works 3-dimensionally and prepare presentations relying on in their own original interpretation in the next lecture.

“Final Evaluation” is the evaluation of the homework.

The output of this 4-phased process provides a basis for students to detect possible problems within any given topics, to channelize their thinking in appropriate directions via observation and to foster an innovative conception and discussion forum regarding those problems. At the end of this discussion environment, the students are expected to attain full comprehension of the given topics and concepts.

### **Student Satisfaction Questionnaire**

Student Satisfaction Questionnaire (SSQ) is a survey aimed at operational improvement of Basic Design course and learning process. SSQ (Appendix 1), which has been performed during a consecutive period of 5 academic years so far, includes a group of close-ended questions with respect to course planning, evaluation criteria, communication and course lecturers.

Questionnaire is evaluated by using statistical analysis software SPSS version 15.

Questionnaire study is comprised of totally 3 sections: Namely; Section 1, Training Programs and Education (11 questions); Section 2, Measuring and Evaluation (8 questions); and Section 3, Communication (1 question).

### **Results**

In Turkey, Basic Design education which forms an interface within a transition process of architectural education for the students of digital-based education system aims to foster certain attributes such as rational thinking, synthesis, inquiry, exploration and decision-making.

For this purpose, in the 5-year questionnaire evaluations without altering curriculum of Basic Design course; the interval of academic years 2004-2006 with prevalence of ‘Classical Education Process’ and the interval of academic years 2007-2008 with experimentation of ‘Design Process with Student Participation’ are compared, thus Student Satisfaction Questionnaire results for Basic Design Course are shown below (Table 1, Table 2, Table 3).

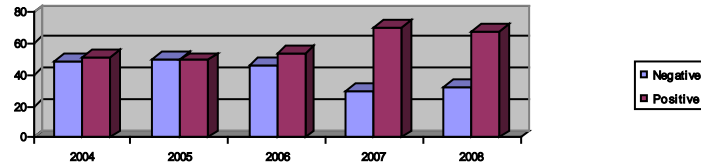


Table 1. SSQ, Training Programs and Education Analysis

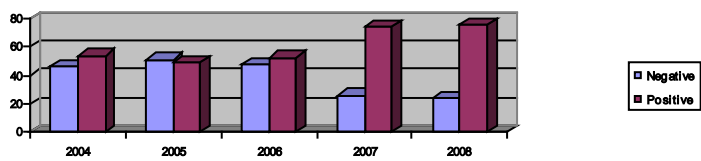


Table 2. SSQ, Measuring and Evaluation Analysis

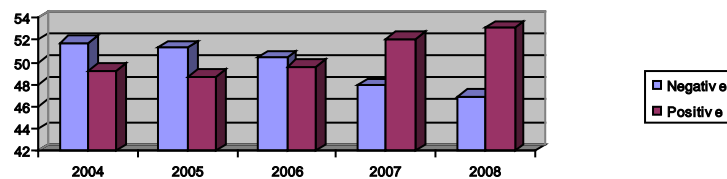


Table 3. SSQ, Communication Analysis

## Conclusions

Various methods are being used in Basic Design education. Basic Design education would be given through classical and theoretical methods, and also through different disciplines such as drama, theatre, literature and theme.

Regardless of the methods used, it is certain that the students with backgrounds of digital information-based education are much likely to experience difficulties in Basic Design course. However; information transmission into architectural project, students' awareness and adaptation to architectural education are accelerated by the experimentation of 'Design Process Model with Student Participation'.

Students tend to learn the design process much more rapidly and at a higher quality level within critical environment.

Design Process Model with Student Participation induces the students' to delve more deeply into a given problem, to criticize and to improve their architectural language.

Discussion environment encourages the use of those design methods such as sample-repetition-based, problem-analysis, sketch work and modeling accelerates the design-to-product process.

Discussion environment in studio and the critical approaches give way to curiosity-driven questioning, exploration and consequently, activate "perception" and "contemplation". Nonetheless, they evoke awareness, creativity and formation of architectural language.

It is essential for a lecturer to keep up the recent developments in Basic Design concepts.

## REFERENCES

Divanlıo lu, D (1997), *Temel Tasar Tasar'ın Ö•e ve •lkeleri*, Birsen Yayınevi, stanbul

Erkan, D Ç. (2006), *Temel Tasar E•itimini Sorgulayan Bir Ara tırma*, YTÜ Yüksek Lisans Tezi, •stanbul, pp: 1-2.

Gür, • Ö (2000), *Mimarlıkta Temel E itim Dersi*, Mimarlık Dergisi, No 293 pp 25-34.

•entürer, A. (2004), *Mimarlıkta Estetikte Tasarımda E itimde Ele tirel Yakla ım*, Yapı Endüstri Merkezi, •stanbul pp:9.

## Appendix 1. Student Satisfaction Questionnaire Form

### BASIC DESIGN COURSE STUDENT SATISFACTION QUESTIONNAIRE

TRAINING PROGRAMS AND EDUCATION						
		Never	Hardly	Sometimes	Usually	Always
01	The course is theoretically sufficient.					
02	The course is practically sufficient.					
03	A course description and syllabus is handed out at the beginning of the semester.					
04	Course-related references are suggested.					
05	Course-related field / laboratory / practice studies are sufficient.					
06	Theoretical and practical activities participated by the students meet the aim of the course.					
07	The aim of the course and expectation from the students are declared.					
08	The course is useful and necessary in terms of career development.					
09	Concepts presented in the course are in compliance with course title.					
10	References suggested and used are in compliance with the course description.					
11	Methods of measuring student performance(examination, homework, etc.) are in compliance with the course description.					
MEASURING AND EVALUATION						
12	The questions addressed during the course are fully understood.					
13	Student performance measuring and evaluation performed by lecturers are unbiased.					
14	Beside examination, homework and practices are also taken into consideration for evaluations					
15	The course provides the student with the ability for comprehension of field-related problems and problem-solving skills.					
16	The course provides the student with method development skills for coping with possible obstacles.					
17	The course provides the student with method development and practice skills for field-related new concepts.					
18	The course provides the student with the ability for integration of multi-disciplinary information.					
19	The course provides the student with by-result presentation and data-analysis skills for their studies.					
COMMUNICATION						
20	The lecturers can be easily reached during the office hours regarding course-related matters.					