

A MODEL PROPOSAL FOR THE CONTINUITY OF DESIGN AWARENESS IN THE BASIC EDUCATION SYSTEM

KÜBRA GÜLLÜ

Interior Architecture and Environmental Design, Hasan Kalyoncu Univ, Gaziantep, Türkiye

Türkiye's basic education system includes a range of courses designed to prepare students for undergraduate education. However, the design education component of the curriculum is considered inadequate. Students interested in design enter university without prior experience and therefore need a long period of time to master basic design concepts. It is known that innate design instincts are gradually diminishing due to environmental factors. It is believed that these skills can be developed in the early years through targeted education. This study aims to identify the age at which design abilities begin to decline and proposes the integration of design-based content into the curriculum at this critical stage. For this purpose, the Visual Arts curriculum of primary schools in Türkiye was analyzed and relevant design theories and methodologies were extensively reviewed. The study found similarities between the Visual Formation and Communication outcomes of the Visual Arts curriculum and the basic design course in undergraduate education. Based on the views of three Visual Arts educators, the model aims to increase the effectiveness of basic design courses at the university level. It is expected that developing design awareness in early education will have a positive impact on undergraduate education and raise more talented designers. The implementation of this model is expected to improve the quality of design education.

Keywords: Architecture education, Basic design, Türkiye, Visual arts.

1 DESIGN

The design process is an activity that involves decision-making, research, and learning, and consists of analysis, synthesis, and evaluation phases (De Vries 1994, Akbulut 2008). The analysis phase is where the problem is defined and the necessary arrangements are made for the final design, and a favorable environment is created to ensure that all processes run smoothly (Akbulut 2008). The synthesis phase starts the process of generating solutions where formal models are developed (De Vries 1994). In the evaluation phase, the overall solution is assessed to determine whether it meets the criteria set at the beginning (Akbulut 2008). Although the process appears linear by definition, it is actually iterative and cyclical in nature (De Vries 1994, Akbulut 2008). The design process commences with the definition of the problem and continues until the most appropriate solution is found. During the generation of a solution, existing approaches are employed and developed through the utilization of techniques such as unification, standardization, and analogy. Alternatively, completely original solutions based on fundamental principles are developed (Akbulut 2008).

1.1 Design Methods

Systematic design methodologies are being developed to address the intricacies inherent in design problems. These methods and theories aim to enhance comprehension and explication of the design process and design education (Hatirnaz 2010). Design methodologies can be categorized under two primary classifications.

1.1.1 Creative methods

These methods are techniques that are generally employed at the onset of the design process, with the objective of fostering creative thinking. Methodologies that promote creativity encompass approaches such as brainstorming, synectics, analogy, broadening the field of inquiry, transformation, and counter-planning. These techniques are designed to enhance the generation of ideas in general, either by eliminating cognitive barriers that impede creative thinking or by expanding the scope of the search for solutions (Cross 2000).

1.1.2 Rational methods

Rational methods and creative methods share similar objectives; both approaches seek to expand the range of solutions sought, promote teamwork, and enable collective decision-making by the group. However, unlike creative methods, rational methods ensure that systematic approaches are employed in the design process. The primary objective of systematic design is to enhance the quality of the final product by refining design decisions. In this context, rational and creative methods are regarded as complementary elements (Cross 2000). Lawson (1995) underscores that the balanced integration and synthesis of rational thinking, rooted in reasoning, and intuitive thinking, founded on imagination, stands as a paramount skillset requisite in the design process.

2 EDUCATIONAL DESIGN RELATION

The design process is characterized by the utilization of diverse information and information sets at each stage of the design process. The scope of this process encompasses the acquisition of information, its adaptation and interpretation to address distinct design challenges, and the development and evaluation of the design in accordance with the objectives established during the decision-making process. The basis of the creative design process, as posited by De Vries (1994), is the integration of initial information, the guidance of the solution process through proactive steps, and the organization of this information within the cognitive framework. Within the context of design education, individual differences in the integration of information sets contribute to the dynamics of the effective and creative problem-solving process. The primary objective of design education is to enhance individuals' capabilities and creativity through knowledge and experiential learning.

Creativity is an ability that commences to develop from childhood and matures over time, rather than being a process specific to a certain age range or period (Geçen 2009). Image creation is of great importance in the creative process, as thinking with visual images emerges as a mental process. At this stage, the individual turns to visual thinking by visualizing images in his or her mind. The initial impetus for design thinking, and consequently visual thinking, does not originate from a blank slate. The individual's affective and cognitive background functions as a readily available reservoir for generating novel concepts (Yakin 2012). Consequently, creativity is conceptualized as a mental and cognitive process.

Piaget (2005) categorized cognitive development into four stages. From birth to two years, the sensorimotor stage dominates, where sensory-based reactions prevail. Between ages two and six,

the pre-operational stage emerges, marked by the development of symbolic thinking. The concrete operational stage occurs between seven and eleven years, during which reasoning based on tangible concepts develops. Finally, from the age of twelve onward, the formal operational stage is characterized by the emergence of abstract reasoning and inference.

Similarly, artistic development progresses through defined stages parallel to physical and cognitive growth. This process is influenced by the individual's developmental capacities and external guidance, advancing from general to specific, and from simple to complex forms. According to Uysal and Selvi (2012), children's drawing development includes the scribbling stage (ages two to four), the pre-schematic stage (four to seven), the schematic stage (seven to nine), where schematic representations appear, the realism stage (nine to twelve), characterized by realistic imagery, and the logical stage (twelve to fourteen), marked by the development of pseudo-naturalistic thinking.

3 VISUAL ART LESSON

In the Republic of Türkiye, design education is integrated into the primary school curriculum through the Visual Arts course, offered from first to eighth grade and revised annually according to grade level. The primary aim of the course is to cultivate individuals equipped with the knowledge, skills, and behaviors aligned with national education competencies (Ministry of National Education 2018). The curriculum is structured around three main learning domains ; Visual Communication and Formatting,, Cultural Heritage, Art Criticism and Aesthetics This study focuses on the Visual Communication and Formatting domain, as its content closely parallels that of the Basic Design course in architectural education. It is anticipated that insights from this domain may inform and enrich future design education.

3.1 Visual Communication and Styling and Basic Design Syllabus

According to the official course content provided by the Ministry of National Education, students are expected to acquire the following skills: Students are expected to:

- Visually express their observations, imagination, feelings, and thoughts,
- Use the language of art for visual communication, supported by written and verbal expression,
- Apply elements of art (color, line, form, shape, texture, space) and principles of design (rhythm, balance, proportion, emphasis, unity, variety, movement, contrast) in their works,
- Understand the value of artworks and show respect for their own and others' creations,
- Effectively use resources (artworks, reproductions, art books) and tools (brushes, paints, scissors, paper) during the creation process,
- Produce creative and original works that reflect their talents,
- Demonstrate ethical behavior regarding issues such as copyright in visual art production.

These learning outcomes are similar to those of the Basic Design course offered in architecture faculties. Table 1 presents the 14-week course content of the Basic Design course at Hasan Kalyoncu University, Faculty of Architecture.

Table 1. Basic design course content.

WEEKLY PROGRAM		
WEEK	SUBJECT	PRE-STUDY
1	University Opening, Materials List General information about the course, introduction of architectural drawing materials and tools	-
2	Letterhead drawing and basic design elements: dot	Provision of materials
3	Basic design elements: point, line, plane and measure	Dot work
4	Basic design elements: Form and transformation of form, light, shadow, ratio-proportion	Line, plane work
5	Basic design elements: Rhythm, movement and color	Form, light, shadow, ratio-proportion study
6	Basic design elements: Texture	Rhythm, movement and color work
7	Basic design elements: Form, spacing Basic design principle: Repetition	Texture study
8	Midterm exam	Review of the topics covered in the first 7 weeks
9	Basic design principle: 2 and 3 dimensional coram	Form-interval and repetition
10	Basic design principle: 2D and 3D sovereignty	Koram study
11	Basic design principle: Compliance Full-empty concept	Sovereignty work
12	Spatial organization charts	Availability and full-empty operation
13	Structure design Basic design principle: Balance	Spatial organization studies
14	Basic design principle: Unity Plane-image-modulation-space	Balance and structure study

The contents of the basic design course and the visual art course were examined and similarities between these two contents were identified. A model proposal was presented in the study by making use of these similarities.

4 MODEL RECOMMENDATION

This study is a qualitative study that identifies the similarities between basic design and visual arts courses. Based on these similarities, a model was proposed for the functioning of the visual arts course in the primary school curriculum in order to train better equipped undergraduate students. While creating the model, Gaziantep Erdem College visual art teachers were interviewed, and information was obtained.

The course is compulsory for one hour per week from the first to the eighth grade, taught by teachers who are graduates of the faculty of education, art, and business teaching. The course begins with an introduction to design principles, including point, line, texture, color, shape, and form. Students then move on to three-dimensional design applications until the end of the semester. However, due to the limited time allocated for the course and the concomitant pressure to cover the curriculum, most studies remain unfinished.

In the interview, Erdem College Visual Art teachers stated that she gains more efficiency from this course from 1st to 4th grade because students in that age group can express themselves more clearly due to their lack of a sense of reality line with this information

The findings of the research and interviews indicate that the capacity for design, which emerges during childhood, tends to diminish and atrophy over time. This decline is attributable to two primary factors. Firstly, the development of the sense of reality in childhood plays a significant role in this process. Secondly, the education system in our country tends to prioritize exam preparation, thereby allocating less time to pursuing interests. To address this issue, a model

proposal has been formulated to ensure the continuity of these skills within the basic education curricula, catering to all age groups.

A content analysis of the Visual Art course was conducted using the Ministry of National Education's official website. The analysis revealed that students in this age group exhibited significantly higher levels of creativity. Additionally, the instructor leading the course noted that their students demonstrated a greater level of interest in the subject compared to students in other age groups. The proposed model is outlined as follows: The weekly curriculum of the Visual Art course is to be augmented in terms of the number of instructional hours. Experts in design, including architects, interior architects, and industrial designers, are to be invited to the lessons on a rotating basis. These experts will engage in activities with the students, thereby providing them with insight into various professions and instilling fundamental design principles in a more enduring manner. The anticipated outcomes of this approach in the target age group include the development of students' manual dexterity by utilizing tools such as pencils, brushes, paper, and rulers, as well as the cultivation of their imagination through abstract thinking. Table 2 delineates the implementation of the model over a period of 14 weeks and the anticipated benefits for students.

5 CONCLUSIONS

The implementation of the model proposal in educational institutions will ensure that students are consistently engaged with design from early childhood to the undergraduate level. This approach will facilitate the repetition of information throughout the educational process, thereby reducing atrophy and enhancing the comprehension of design fundamentals among students. Notably, students who begin their design education at the undergraduate level will be more cognizant, leading to an enhanced efficiency and clarity in the fundamental design course. Furthermore, the integration of art and culture throughout the educational experience fosters the development of a more cultured generation. It is thought that this will positively affect the students' career choices in the long run, and it is predicted that they will have less difficulty in the undergraduate education process as they will have a more solid infrastructure while studying at university.

Table 2. Model.

Week	Time	Subject	Content	Gain
Week 1	2 hours	Introduction	Explanation of course content	-
Week 2	2 hours	Color	Depicting all living things in nature different from their true colors	Imagination Power
Week 3	2 hours	Line	Designing free lines with different materials (craft paper, sticks, pencils, pens, paper, ruler)	Hand development
Week 4	2 hours	Forming	Creating new forms by cutting and cutting fruits and vegetables s	Hand development, cross-section awareness
Week 5	2 hours	Form	Conversation on the form with the designers participating in the course, reinforcement with visuals, at the end of the course, create the form of your dream house work	Profession introduction, Imagination

Table 2. (contd)

Week 6	2 hours	Texture	Feeling different textures with different materials (wood, concrete, sponge, metal, corrugated cardboard, leaf etc.) and creating different forms by painting, cutting, gluing these materials	Material introduction, Sensory development
Week 7	2 hours	Mid-term exam	Submission of a homework to cover all the topics covered so far	Reinforcement
Week 8	2 hours	Space	Explaining the concept of space by the designer who will participate in the course and asking students to design abstract spaces (cardboard, craft paper, etc.)	Imagination, Hand development, Space concept
Week 9	2 hours	Rhythm / Movement	Listening to different music styles (classical, pop, metal, etc.) and having children describe the feeling they evoke on A4 paper	Imagination, Ear development
Week 10	2 hours	Ratio-proportion / Balance	Grouping the students among themselves and asking them to design a space for a group of camels and a group of dwarfs and comparing the products at the end of the lesson and explaining the ratio, proportion and balance	Group work, Space Concept consolidation
Week 11	2 hours	Emphasis	After explaining the concept with visuals, each student is asked to make an emphasis with texture, color or proportion to make a point stand out in his/her work	Hand development
Week 12	2 hours	Contrast	Color, texture, material and contrast concepts are explained and the student is asked to create a composition about contrast with the material of his choice	Hand development, Imagination
Week 13	2 hours	Diversity	After all concepts are explained, the concept of diversity is explained and the student is asked to create a composition with at least two concepts of his/her choice	Reinforcement, Hand development
Week 14	2 hours	At the end of the semester	Students are grouped into groups and given a term paper that will cover all the topics covered	Developing awareness of group work

References

- Akbulut, D., *Evolutionary Design Method and the Place of Creativity in the Process*, Journal of Art and Design, Ankara Hacı Bayram Veli University, 2, 21–33, December, 2008 (in Turkish).
- Cross, N., *Engineering Design Methods: Strategies for Product Design*, John Wiley & Sons, 2000.
- De Vries, E., *Structuring Information for Design Problem Solving*, PhD Thesis, Eindhoven University of Technology, Eindhoven, The Netherlands, September, 1994.
- Geçen, F., *Ways of Seeing in the Drawings of Adolescents Aged 12–15* (Master's thesis). İnönü University, Malatya, Turkey, 2009.
- Hatırnaz, A. A., *A Method Proposal for Enhancing Creativity in Design Education: The Design Cycle* (Art Proficiency thesis). Mimar Sinan Fine Arts University, Istanbul, Turkey, 2010.
- Lawson, A. E., *Science Teaching and the Development of Thinking*, 2nd Edition, Wadsworth Publishing Company, 1995.
- Ministry of National Education, *Visual Arts Curriculum*, Ankara, The Republic of Türkiye, 2018. Retrieved from <http://mufredat.meb.gov.tr/ProgramDetay.aspx?PID=358> on January 30, 2025.
- Piaget, J., *The Child's Conception of the World (Translated by Yerguz, İ.)*, Dost Yayıncılık, 2005 (in Turkish).
- Uysal, M., and Selvi, F., *Primary School Children's Perception and Formal Expression of Anıtkabir as an Architectural Object*, Journal of World of Turks, 4(2), 247–257, 2012.
- Yakın, B., *An Analytical Approach to the Relationship Between Visual Thinking and Visual Representation in the Design Process* (Master's thesis). Hacettepe University, Ankara, Turkey, 2012.