Visual and Intuitive Representation of Interior Space

Representación visual e intuitiva del espacio interior

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Abstract

Interior design is basically a discipline that is related to the transformation of space and focuses on human needs. Throughout the interior design education process, students learn about current materials, colors, textures, detailing, technical drawing, the history of interior styles, architectural and furniture construction knowledge, space analysis, and visual representation of space. Intuitive thinking in interior design solution is one of the ways of generating solutions. This study describes the interior design process and visualization stages that proceed intuitively in the model making course, which is continued through distance education. Due to the adverse effects of the earthquake that occurred in Kahramanmaraş on February 6, 2023, the Spring Semester education of 2023 was conducted nationwide in Turkey through remote online platforms. During the Model Making course, great efforts were made to keep the students' adaptation and interest alive. As a result, students shaped and visualized the spaces, described in the stories provided to them, based on their intuitions.

Keywords: visual representation, intuitive design, representation of space, interior design, Edgar Allan Poe, model making.

Resumen

El diseño de interiores es básicamente una disciplina que se relaciona con la transformación del espacio y se centra en las necesidades humanas. A lo largo del proceso educativo de diseño de interiores, los estudiantes aprenden sobre materiales, colores, texturas, detalles, dibujos técnicos, la historia de los estilos de interiores, conocimientos arquitectónicos y de construcción de muebles, análisis del espacio y representación visual del espacio. El pensamiento intuitivo en la solución de diseño de interiores es una de las formas de generar soluciones. Este estudio describe el proceso de diseño de interiores y las etapas de visualización que se desarrollan de forma intuitiva en el curso de modelismo, que continúa a través de la educación a distancia. Debido a los efectos adversos del terremoto que ocurrió en Kahramanmaraş el 6 de febrero de 2023, la educación del semestre de primavera de 2023 se llevó a cabo en todo el país en Turquía a través de plataformas remotas en línea. Durante el curso de Modelismo, se hicieron grandes esfuerzos para mantener viva la adaptación y el interés de los estudiantes. Como resultado, los estudiantes dieron forma y visualizaron los espacios, descritos en las historias que se les proporcionaron, basándose en sus intuiciones.

Palabras clave: representación visual, diseño intuitivo, representación del espacio, diseño de interiores, Edgar Allan Poe, modelismo.

Introduction

Interior design, like interior architecture, decoration, and reuse that are closely related to it, is fundamentally concerned with the transformation of space. Interior design is an interdisciplinary practice that deals with creating environments with different identities and atmospheres through the intervention in the spatial volume through theoretical and practical knowledge, the placement of original elements and furniture, and the treatment of surfaces. The original structure of the space is preserved and the new interior space is inserted within it (Brooker and Stone, 2011).

Interior design is a process that primarily aims to understand the expectations of users, analyze their needs, and adapt the existing space to these expectations and needs. Considering these sensitivities, in interior design education, students are taught the importance of the fact that the space is a whole with its components and elements and that it should exhibit its durability, usefulness, and aesthetic qualities while fulfilling its function. Throughout the education process, students learn about current materials, colors, textures, detailing, technical drawing, the history of interior styles, architectural and furniture construction knowledge, space analysis, and visual representation of space.

Even if a design is excellent, if it's not presented well, it might not be preferred by the client. Similarly, if the client's preferences are not well understood, a design solution may not be formulated adequately. Effective visualization that conveys the idea clearly and quickly is needed to increase the preferability of a design. Effective visualization makes it easier for the client to be convinced of the design concepts.

A three-dimensional visualization with a model helps students develop their intuitions and thinking processes leading to the derivation of design solutions. If the model is carefully designed, it can easily and effectively convey the idea, concept, or message of the design to others.

In this chapter, the project process conducted within the scope of the "AIMT2008 Maket ve Model Yapimi (Model Making)" course, provided by Sadiklar, the methodology of the project work, and the outcomes of the project are presented. This study aims to suggest a path for colleagues and other professionals by sharing the education process and its outcomes, which must be sustained under unfavorable conditions. The study was conducted with students of the Interior Design associate degree program at Arsin Vocational School of Karadeniz Technical University in the spring semester of 2023. Students who complete the interior design program are given the title of "technician". An interior design technician naturally works in cooperation with architects and interior designers (architects) in the work environment and helps them in their projects.

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Model Making

The Model Making course aims to enable students to gain a visual understanding of interior spaces and present this understanding through three-dimensional models. Hacihasanoglu (1992) states that the significance of models has never been denied in developing three-dimensional thinking and designing skills in design education. Despite the passing decades and the advanced virtual Technologies (hologram, AR, etc.), three-dimensional models that can still be physically explored, experienced by touching, and perceived in depth by manipulation remain equally significant today.

In design-based disciplines where creativity and imagination are important formative powers, the product cannot always be understood through two-dimensional media. Three-dimensional model-making is important for allowing humans to perceive the impact of the actual form of the design that will be produced. Being able to walk around the model or understand its depth through the aid of perspective by holding it at eye level increases the command of details, and facilitates perception. Architectural models, which are a form of three-dimensional representation, also serve as visual communication tools. Models make concepts and ideas tangible, sometimes in an iconic manner, and they can also incorporate symbols. Architectural models are created at specific scales (such as 1:5, 1:50, 1:200, etc.). In most cases, they are a smaller sample of the actual structure they represent. However, they can sometimes be enlarged within a scale (e.g., 2:1). These models play a crucial role in establishing a bridge of ideas and communication between

architect-architect, architect-engineer, or architect-client. Architectural models serve various purposes, so there are many types of them. (Models) are used for many purposes, such as representing spatial relationships, conveying functional layouts, and particularly for shaping human spatial perception. Models are used at various stages of an architectural project: for the planning of the project, for the sale of the project, or for explaining the proposed changes in the project. Akgün (2003) mentions that architectural models provide the opportunity to re-evaluate and change the project while revealing the plastic value of the design. Depending on their intended use, models can be created for working (drafting), presentation, or demonstration purposes. Scales between 1:50 and 1:1 can be used in the three-dimensional expression of interior design. The scale of the model is taken into account when selecting materials, colors, and textures. This is because the appearance of details will not be the same size in models of different scales. Details that are designed without considering the scale can disrupt the spatial perception of the model and the model loses its credibility.

Objective

It was previously mentioned that the objective of this chapter is to suggest a path for colleagues and other professionals by sharing the education process and its outcomes, which must be sustained under unfavorable conditions The aim of the study carried out during the aforementioned education process is to enable the students of the Interior Design associate degree program to express what a described space looks like with appropriate concepts and ultimately to visualize it with a three-dimensional architectural model that they will produce through intuitive thinking. It is also aimed to increase the intellectual knowledge of the students by introducing them to a storyteller they have not read before. To achieve the aim of the study, the students were expected to:

- intuitively correlate the spatial characteristics described in the story with interior design and transfer these characteristics into a three-dimensional model
- imagine the atmosphere of the space described in the story and express it using concepts
- visualize the imagined atmosphere of this space with appropriate forms, textures, colors, decorations, furniture, and materials, maintaining accurate scale and proportion

Methodology and Process[1]

Throughout the process of achieving the study's aim and expectations, there were various difficulties for students and instructors. Because some of the students were affected by the earthquake, which was centered in Kahramanmaraş and affected 11 provinces, and they could not attend classes. For this reason, after a break in education for 2 weeks, remote education was started across the country, as in the pandemic period. The initial 5 weeks of education were conducted solely online. From the 6th week onwards, a hybrid

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1 This work is an extension of the paper published in the Book of Proceedings of CIVAE 2023.

education system was started, which included both online and face-to-face education. In this system, students who wished were able to receive face-to-face education in the classroom, while other students continued to participate in these classes online. However, difficulties encountered by students in using the remote education system, the loss of mobile devices like laptops by earthquake victims, and the unstable internet connectivity in the earthquake-affected region can be considered challenges of remote education. Lecture recordings were shared with students, and they were enabled to watch the lectures again whenever they wanted. In each session, assignments were discussed, and constructive feedback was provided to aid in enhancing their work.

During the project process, three selected stories by American writer Edgar Allan Poe were studied. The interior descriptions in these stories were analyzed. As a result, representations of Poe's interior spaces were presented through architectural models shaped by intuitive thinking.

Intuitive thinking refers to a problem-solving, decision-making, or discovery strategy used to make rapid and simple judgments or evaluations. It offers speed and efficiency in finding solutions but does not necessarily guarantee the optimal outcome. It is often a kind of mental shortcut that utilizes trial-and-error techniques. Three types can be discussed: In availability heuristics, the judgment or evaluation is related to an experience or concept that immediately comes to mind. It doesn't require much cognitive effort but often leads individuals to erroneous conclusions. In representativeness heuristics, judgement or evaluation is made by considering another concept that represents or resembles the concept in question. In judgemental heuristics, judgement or evaluation is based on examination and relies on principles and methods associated with this process (Karakas, 2017).

The project process is described step by step in phases below.

Phase 1 is the preparation stage. In this step, the primary aim was to equip students with the following skills: the ability to work with appropriate scale and proportion, apply model-making techniques, select and texture scale-sensitive materials sensitive to scale. In line with these objectives, students were informed, and assignments were given to support them in developing their skills.

Phase 2 involves the selection of the stories to be studied. As none of the students had read the stories by Poe before, his stories were intentionally chosen. Poe has a distinctive and unique style. His stories are known for surprising and unexpected endings. Thus, the students were asked to stimulate their sense of curiosity and enjoy the process. The stories were selected from the book "The Complete Stories of Edgar Allan Poe" (original The Short Fiction of Edgar Allen Poe, 1976). When deciding on the stories to be examined, the first step was to identify the stories containing interior descriptions from among the 71 stories in the book. The first three stories that received the highest number of votes and were liked by the students were selected (The Duc de L'Omelette, The Devil in the Belfry, and The Masque of the Red Death). The density of interior description in the story and the brevity of the story were influential factors in the selection of these stories.

Phase 3 is the stage of understanding and analyzing the interior spaces in the stories by Poe. Each student first read the story they chose, analyzed it, and noted down the characteristics of the spaces. A seminar titled "19th Century Architectural Context

and Movements", related to the period portrayed in the stories, was organized by Kücük Karakaş. This allowed students to enhance their knowledge about the period. Later, the students presented the interior atmosphere they envisioned through 2-dimensional mood board works (Figure 1). By discussing the interior atmosphere for a few weeks, students were enabled to deepen their individual spatial decisions.

Figure 1. The mood boards for the each story

Phase 4 is the stage of representing the interior spaces in the stories by Poe with 3-dimensional models. A total of 17 students participated in the study during the project process. However, due to adversities, only 10 students were able to mature their projects. The developed and matured projects are given in the Table 1, Table 2 and Table 3.

Here three of the stories by Poe were studied: The Duc de L'Omelette, The Devil in the Belfry, and The Masque of the Red Death. In all three stories, there are a lot of descriptions related to the spaces. Surface coatings and colors, decorations such as sculptures, details of furniture, and the shape of the spaces are elaborately described. In addition to the physical descriptions of the spaces, Poe also expresses concepts such as astonishment, mystery, and gloom that the spaces evoke in people in his stories. Students reflected Poe's interior descriptions in his stories on the interior design in line with their own intuition. In the story "The Duc de L'Omelette", Poe (2007) describes the demon's place with details: big red lantern hanging from the top, sculptures in cavities in the corners of the room, from the curtainless window shines the most terrible of fires and many gold-framed paintings on the stone walls. The students' intuitional representation of the devil's place is given in the Table 1.

Table 1. Representation of The Duc de L'Omelette story through models

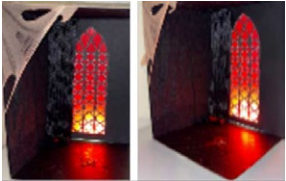|	Students' interpretations	Model photos
Buket Yildiz	●small lantern with the gold chain hanging from the top ●tiny sculpture on the corner of the room ●the walls and the floor made of stone ●a few gold-framed paintings on the stone walls ●high vault ceiling with flames ●throne of the demon ●gothic style windows	
Nazlican Yazici	●large sculpture on the corner of the room ●flames on the walls and high vault ceiling, scene showing hell on the wall ●throne of the demon ●gothic style windows	
Barkin Zeren	●big red lantern hanging from the top ●large sculpture on the corner of the room ●a few gothic style gold-framed paintings on the stone walls ●ceiling full of cloud and lighting ●gothic style window and showing hell scene through	

In "The Devil in the Belfry", Poe describes the interior with: floors covered with square tiles, puppy-legged chairs and tables with slender, curved legs are made of black wood, fireplace pediments are wide and high, clock and cabbage carvings on the front of the pediment and also a real clock in the middle, large and deep hearths. Table 2 shows the students' interpretations of the story.

Table 2. Representation of The Devil in the Belfry story through models

Students' interpretations	Model photos
Fatma Nur Türk ●floors covered with square tiles ●large high boy cabinet on the corner of the room ●walls and ceiling covered with wood panels ●made of black wood table and the chairs have pointed details ●gothic style bench with high back ●gothic style window ●large fireplace	
Ayca Atalar ●floors covered with rectangle tiles ●wall covered with wood panel ●made of black wood table and the chairs without detailing ●gothic style window ●low fireplace	
Suhedanur Türüt ●floors covered with square tiles ●walls covered with stone ●made of black wood bench with pointed details covered with cloth ●gothic style window ●large stone fireplace with pointed details	

Poe (2007) in his story "The Mask of the Red Death" includes the following details about the interior: the walls and the ceiling covered with black velvet, carpet made of the same material with the walls and the celing, windows with dark blood red glass, the bloodcurdling and fantastic effect created by the flame lights of the mangal, large ebony clock against the west wall and various ornaments. The students represented the interiors as in the Table 3.

Table 3. Representation of The Masque of the Red Death story through models

	Students' interpretations	Model photos
Aysenur Saglam	●the walls and the ceiling covered with the same black velvet ●flower symbolizing death on the wooden floor ●gothic style large window with blood red glass ●large ebony gothic style clock against the wall ●large black chandelier hanging from the ceiling	
Elif Akyüz	●the walls, the ceiling and the floor covered with the same black velvet ●gothic style large window with blood red glass	
Özlem Gözen	●the walls and the ceiling covered with black velvet ●carpet lying on the stone floor made of the same black velvet ●twin window with blood red glass ●large fireplace with ornaments on it ●long black curtains	
Ayşe Nur Orcin	●the walls and the floor covered with black velvet ●large gothic style windows with blood red glass ●large ebony clock against the wall ●fireplace on the corner of the room ●a few gold-framed paintings on the wall ●gothic style furniture ●coffin made of black wood lying on the ground	

Conclusion

The most basic thing expected from the students in the study was to intuitively correlate the spatial characteristics described in the story with interior design and transfer these characteristics into a three-dimensional model. Because when they enter professional life, they will have to offer the most suitable solution for their clients by fully understanding their wishes and needs. In this model-oriented project process, an interior design experience was simulated in which the students could use their intuitive perception of space and develop their ability to visualize.

Representation is how an object (the represented) is seen by the subject rather than how the object itself is. The quality of representation varies based on the subject's ability to realize it. As a result, the interior space representations created by students varied due to these differences. Students expressed the same stories with different textures, colors,

decorations, and forms. Some students even resorted to allegorical expression. There are also some common features in the projects. These features include the neo-gothic atmosphere of the interior style, the gloomy and dark space atmosphere, and the dark colors used on the surfaces.

The seminar held within the scope of the course helped students better understand the stylistic characteristics of the period in which the stories took place. This aspect was also expressed by the students during the project process. Intuitive thinking helped students to imagine and model the interior space. The models produced at the end of the project constituted a successful representation of the spaces of Poe. It is a fact that the earthquake disaster led to a decrease in students' motivation. However, despite everything, they tried to do their best with perseverance.

Acknowledgements

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