

# A method proposal for interior architecture education: Patch-merger workshop

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## Abstract

Design, as a discipline, envisages the development of each problem with its own unique and rational solutions. The act of designing can be defined as presenting a specific and up-to-date solution in response to the function at the point brought by the problem. Design by interior designers, a problem within the space; function, aesthetics, atmosphere, durability and cost aspects are examined from a holistic perspective. The qualifications sought in newly graduated interior architects are not only knowledge, but also the ability to adapt and reproduce information, use it within various programs, and combine and develop it with information from different backgrounds. In this context, a new studio was designed within the scope of the Materials course, which is one of the compulsory courses of a University in Ankara, Department of Interior Architecture and Environmental Design. The proposed study is intended to enrich the content of the course and strengthen the learning experience. It was primarily preferred for the studio work recommended in the material courses, where the interior components are exemplified in the design and the material knowledge of the interior architecture profession is deepened. As a result, Design education has a practice-based process due to its nature and methodology. In addition to the acquisition of the student in the studio lessons, it is valuable in terms of supporting the interaction with the material with new methods, self-development on behalf of the student in this process based on experience, and following the learning process on the behalf of the educator.

## Keywords

Interior design education, Learning method, Material, Material board, Workshop.

## 1. Introduction

Today, creating a lesson plan is one of the areas that academicians think about the most. With the developing technology and increasing sub-disciplines, it has become an important issue to be able to effectively convey the basic principles of education to the students. While preparing the lesson plan, the whole process should be emphasized, and the last lesson and activities should be handled carefully as well as the first lesson. It is emphasized that the most important competence that students acquire is the knowledge of how they will use what they have learned in the lesson in the future (Burgess-Van Aken, 2017). The three learning types as project-based learning, animation/simulation and reflecting are presented. The training we received by developing projects on the given problems and developing a design in line with the critiques, as in the design studios, has been evaluated as “project-based learning”. Solving the problem, which is frequently used among different disciplines, with a user-based empathy by animating is called “animation/simulation”. The learning methodology, which is referred to as reflecting, can be simply explained as the student’s use of past experiences/acquisitions in the learning process (Altay et al., 2016). Altay et al. (2016) suggest that using student-centered practices and methods will help students grasp the subject more clearly and from different angles. Design studios, workshops, on-site designs are all accepted as experimental learning and emphasized their importance in architectural design education (Folić et al., 2016). At this point, within the scope of the research, it is aimed to reveal the benefits of activities that enable the student to think in the focus of the user by empathizing.

It is thought that supporting and nurturing the education program with the aforementioned workshops will meet the needs in order to bring the above-mentioned elements to the students. In the first stage of the research, the material lesson in interior design and the value of innovative workshops in this context were emphasized. In the next stage of the study, the workshop

applied was discussed in detail and its gains were examined. The research proceeds on the thesis that the workshop is one of the methods that can be applied to the needs emphasized in the course and is useful in the development of the curriculum. The achievements of this study are considered valuable in that they can be adapted to other courses in the practice-based interior architecture practice.

### 1.1. The role of material courses in design education

Materials are pivotal in actualizing design concepts and serve as a catalyst for innovation, inspiration, and the imbued significance of a project. Designers engage with materials not only to realize their visions but also to articulate their assessments and insights regarding their interactions with these substances (Manzini, 1986; Ashby & Johnson, 2014). The design process determines the point where the material will be located, and the knowledge of how it will become a solution also shapes the type of material and the elements that affect it. The effects of the material on the quality of design have brought it to be a part of design education.

Material education can be conducted in a variety of environments beyond the conventional classroom. For instance, material libraries and fabrication labs offer valuable hands-on experiences that support designers in navigating the material selection process. This is particularly important given that numerous material properties remain challenging to quantify through experimental methods (Wilkes & Miodownik, 2018). Material libraries, by providing access to physical samples, enable designers and design students to translate abstract data from material databases and catalogs into tangible experiences (Akın & Pedgley, 2016). Furthermore, such interactive engagements are not limited to material libraries alone; physical samples can also be presented during lectures, thereby allowing students to engage directly with the materials (Zhou & Rognoli, 2019). Facilitating workshops plays a crucial role in fostering enthusiastic engagement and active

involvement among students, thereby enhancing their skills and expertise. The significance of workshops in design education is widely recognized as a prominent priority (Rastogi, 2023). Workshops can be seen as a supportive aspect of material lessons and design education, forming another focus of this experience. Content and processes are equally important in design education (Zhou & Rognoli, 2019). Content can be seen as a combination of form, meaning and function expression in design education. The material not only supports the design in terms of form and meaning, but also offers a solution in terms of functionality. In the focus of the content conveyed in the schools of design education; form, meaning and function. While the material corresponds to the points specified by the content for the design of the space, it also became a tool for the designer to interact with the user of the space. From the framework of design education, this situation has brought a multi-faceted approach with the understanding of the design, application and coming together of the material.

The feel of the materials informs the designer: “Here it is soft and flowing, here it feels hard and bumpy” (Norman, 2007). Based on this statement, it can be said that the user should experience this feeling as interior designers know that the spaces they design will be used by people. Therefore, space designers must analyze and use the material and its effect correctly. In this sense, within the scope of material lessons in design education, the student must establish an experience-based bond with the material in order to obtain the necessary information.

The diversity, use, performance, texture, color, structural characteristics of the material, the identity it will add to the space, preference criteria, application methods are taught in material lessons during the education and are expected to be applied in design projects. In this context, it is aimed that material courses will support studio projects intensively. On the other hand, knowing the color and texture, which are the descriptors of the material, teaching it and using it correctly is of great importance in perceiving the de-

sign and transferring it to the projects. The materials that give the identity of the surfaces and form created in the projects constitute the tactile and visual language in space design. These expressions of surfaces affect the design with various ways of reading psychologically, intuitively and instinctively, as well as physically felt at the level of perception (Gezer, 2012).

It is very important for a designer to know the technical and perceptual properties of the material to be used during the selection and use phase. Knowing a material well means knowing the general and technical characteristics of the material, its production stages, possible places of use in the structure, the elements to be considered in its application and its maintenance (Perker, 2011). In this context, it is aimed to equip the students with this information within the scope of the material course. The stated goal can only be achieved with a versatile material education in accordance with the design, where the materials can be learned by experience by the students, and with a specially equipped environment for this education. In order for designers to keep up with the social and economic background of today's world, they need to have analytical and creative thinking skills in a broad perspective. It is important to understand and follow the world in order to improve design and design education. In order to keep up with the changing world, designers need to have more adaptable creative abilities in addition to program knowledge and basic design skills (Friedman, 2012). In this context, the course contents and teaching styles of universities that have been giving Materials courses for 10 years or more have been examined. According to the content analysis of the curriculum, it can be said that material education is mostly handled with a content that is suitable for theoretical explanation and fed with technical information. However, material lessons should prepare the ground for an understanding in which the skills of students to determine material selection criteria in their professional lives and to understand the nature of the material are developed and taught, and materials are learned by experiencing one-on-one.

The Bauhaus educational framework delineated its foundational course into several key components: “study of materials and tools”, “study of nature”, “study of materials”, and “space study-color study- composition study”. In the third phase of this curriculum, materials- including clay, stone, wood, metal, glass, textiles, and color- served as central elements. The principal objective of this approach was to foster an in- depth exploration of the intrinsic and unique properties of materials through direct, experimental engagement (Rognoli & Levi, 2004). At this point, Ashby and Johnson (2014) state that in order to use materials effectively, it is necessary to have some knowledge about their technical properties and production methods. In parallel with the technical features of the materials, the sensory properties that appeal to people’s emotions are also important for the selection of materials to be used in the product (Zuo, 2010). In this context, the teaching methods should have a quality in which students will be more active (Kauppila, 2018). In this way, interactive learning of material design in different layers is possible. Considering the relationship between material and experience in design education, material lessons are taught on a single axis and theoretically bring along a single dimension of learning.

Today, it is seen that material lessons in design education are handled as learning by seeing instead of learning by experiment with the effect of technological developments. Students focus on developing technology instead of traditional craft (Lawson, 1997). Although this situation has positive results in learning new materials and production methods, it gradually causes the practical interaction of design students with materials to decrease. In the light of this information, it is concluded that a material course where students and materials can interact is important for design education.

### **1.2. The influence of workshops on design education**

Experiential learning is an educational model within the constructivist paradigm that defines a free and collective space for students,

emphasizing the integration of design and construction processes. Known by various names such as design build, learning by doing, and experiential learning, this method is integrated into the curricula of many educational programs today, including summer schools, elective courses, and studio education (Yıldırım Okta, 2019). In the experiential learning approach, individuals access knowledge not through hearing or reading about others’ experiences, but by exploring and experimenting based on their own reality. This allows them to reflect on past knowledge and use it as a foundation to establish new connections and make syntheses through reflection. Maker-centered learning, built upon the work of education theorists like John Dewey, Jean Piaget, and Seymour Papert, unfolds through interactive, open-ended, student-centered, interdisciplinary experiences, organized horizontally. In contrast to traditional approaches based on theoretical knowledge acquired in classroom settings, students engage in developing design ideas using models, prototypes, and sketches. They must concurrently and cyclically consider numerous parameters such as main concepts, materials, details, time, budget, and location-related constraints and decisions. At this point, design based on action-reflection thinking can be defined as a transformative process where students actively participate in iterative, dialogic, creative, critical, and reflective actions (Yorgancıoğlu & Güray, 2018). According to Mezirow (1990), the exposure to novel situations during practical applications enhances students’ ability to devise new strategies and resolve problems, thereby promoting constructive and creative thinking. In a similar vein, Kolb (1984) posits that knowledge is acquired through environmental experiences and practical application of theoretical concepts. He underscores the necessity in educational settings to facilitate opportunities for students to engage in innovation and discovery.

Heidegger provides the interpretation of “self-giving/self-throwing” in relation to the experiential learning model where individuals actively engage. According to Heidegger (1998), “Learning

does not occur when a student passively receives information; it begins only when the student actively engages with and internalizes the material as personally meaningful. Genuine learning arises when this process of appropriation becomes an act of self-investment, experienced as such by the learner. It is not solely the outcome of instructional guidance, but rather emerges through the collective participation of all involved—including workshop facilitators—and most critically, through the student’s autonomous and reciprocal engagement in the learning process.” It highlights that in workshop settings, meaningful learning emerges when students take ownership of their learning process and engage collaboratively with peers and facilitators, moving beyond passive reception toward deep, transformative understanding.

In parallel with these views, it is recognized as important to include the experiential learning model in the curriculum of design education, allowing tactile interaction with materials, sensory experiences, and active involvement of the body in cognitive processes. Especially in the face of the egocentric perspective caused by contemporary technologies, the significance of sensory gains through bodily experiences becomes even more apparent. Such a system where students actively participate necessitates arrangements outside standard formal education, in informal working environments. Formal education typically occurs in classroom settings, focusing on theoretical knowledge, whereas informal education often takes place outside the classroom, beyond planned curricula, fostering learning through communication, collaboration, and experiential interaction. Informal education, defined as informal learning environments, can be partly pre-arranged or entirely spontaneous. Workshops constitute a significant portion of organized informal education systems (Yürekli & Yürekli, 2004).

Donald Schön developed more intricate and profound theories, known as reflective practice, to elucidate re-processing of knowledge. He introduced concepts such as reflection-on-action and reflection-in-action (Schön,

1983). Schön argued that the development of individual insight relies on a critical examination of practical values and theoretical frameworks. This process is described as “examining practice reflectively and reflexively” (Bolton, 2010). A prominent model of reflective practice is experiential learning (Kolb, 1984), which offers a methodology for evaluating a person’s abilities in a language that allows for measurable commensurability. This model provides a comprehensive view of learning by incorporating experience, perception, cognition, and behavior, and considers learning as a cyclical process involving concrete experience, reflective observation, abstract conceptualization, and active experimentation.

Teaching involves both the delivery and transmission of information and knowledge, as well as facilitating students’ growth, learning, and transformation of their own understanding of the subject matter. Traditionally, lecturers have employed a transmissive approach to teaching, which emphasizes the act of teaching itself over the process of learning. This method, which often appears to be student-driven with minimal interaction between the instructor and students, can inhibit creative thinking and may be less effective in the context of design education (Guo, 2016).

## 2. Method

This study has been designed within the scope of “Construction and Material” course, which is one of the must courses of a university, Department of Interior Architecture and Environmental Design. The aim of the proposed study is to enrich the content of the course and strengthen the learning experience. The Construction and Material course, in which the interior components are exemplified in design and the material knowledge of the interior architecture profession is deepened, was primarily preferred for the proposed workshop. In this context, the study is aimed to be supportive in the following subjects:

- Measuring the ability to establish the link between the material and the atmosphere of the interior space
- Measuring the effects of activities within the scope of the course

- Organizing the interaction of material lessons with design studios
- Using creative activities for the clarity and efficiency of the course

In these respects, it offers an action plan to close the gap of Construction and Material course by proposing an interactive activity. The hypotheses (H) developed within the scope of the stated research objectives are presented below;

H1. Interactive workshops within the Construction and Material course will positively impact students' ability to connect materials with the atmosphere of interior spaces.

H2. Student engagement in creative activities as part of the course will enhance the clarity and efficiency of learning, improving overall course comprehension.

H3. Students involved in interactive workshops demonstrate greater self-efficacy in selecting and applying construction materials in their design projects.

H4. The integration of material lessons with design studios through interactive methods will foster stronger connections, leading to more effective learning outcomes in interior architecture students.

It adopts the action research approach, which can also be described as educational work, as a method. As in the proposed approach, a deficit has been identified in this study, an action plan (workshop) has been prepared for it, it has been adapted, and application-oriented evaluation (student feedback) has been received. In order to receive student feedback, a survey consisting of a total of nine questions, one of which was open-ended, was applied to the student group where the workshop was applied. The answers from the participants were evaluated by content analysis. In the survey study, which was used as a data collection tool, the first eight questions were presented by analyzing quantitative data. In the ninth question, which was designed as open-ended, the answers from the participants were analyzed by content analysis, categories were created, and categories and opinions were presented by table. With the survey study, it was aimed to measure the extent to which the application approached its goals and to improve the action plan.

As part of the action research framework, the workshop was designed to serve as the core action phase. Osgood developed a scale using bipolar adjective pairs to measure perceptions and reactions toward specific concepts, objects, or events (Osgood et al., 1957). This method, known as the "semantic differential," remains widely used in contemporary research. In this study, the method was adapted into a five-point Likert scale to evaluate materials and products. However, the primary aim was not to assess perceptions of material quality, but rather to make the classification of materials and products more enjoyable and accessible for students, thereby fostering their ability to connect materials with the atmosphere of interior spaces. The adjective pairs were carefully selected to avoid negative or threatening connotations and were limited to ten pairs to ensure clarity and focus. As noted in the work of Ashby and Johnson (2014) on material perception, these qualities play a significant role in how users describe a product or material. When supported by visual representations, these descriptors help strengthen communication and serve as effective tools in the design process. In the planned workshop, materials were paired with adjectives through images, allowing students to directly experience this process. This experience also helped them transfer knowledge from the materials course into their design studio work.

### 2.1. A proposal for the application of the material course: Patch-Merger

One of the most important deficiencies seen in the students of IAED Department is that they cannot establish the relationship between the atmosphere of the space and the material/product. In this context, it is thought that this link will be strengthened with the "Patch-Merger" workshop proposed in the "Construction and Materials" course. The main point of view of the proposed workshop is to be able to look at Interior Architecture by examining furniture/equipment not only in the focus of form but also in terms of color, texture and product.

In interior design projects, it is emphasized that the choice of materials is effective in establishing a connection with the concept and the essence of the space. At the last stage, the presentation of the choices as well as material selections made to convey and explain the project becomes important (Dodsworth, 2009). The proposed workshop is also aimed to meet this need.

In this direction, it is suggested that the workshop be conducted in the material-oriented courses included in the program. It is thought that the workshop will both bring different perspectives to interior design and enrich the course content. The Construction and Materials course in our department is a must-course offered to second-year students. The workshop was held for all the second-grade students at the same time in their own lesson time. Since the average number of students taking the course is 60, taking into account the content and intensity of the workshop, two-week course hours are allocated to the workshop to obtain the necessary efficiency. After informing the students about the requirements of the planned workshop and what was requested, the process started with 49 students who came on the day of the workshop. The workshop be planned to be made in the middle or toward the end, not at the beginning of the semester when the students do not have enough knowledge yet. In this direction, the workshop was held to the second-year students in the 7-8 weeks of the 11-week summer term.

### 2.1.1. Workshop preparation phase

During the preparation process of the workshop, students were asked to bring material images from the 21st century that could be used in the workshop. Information regarding the requested images was made before the workshop. According to this preliminary research, the subject can be diversified as material, product, or art, but it is basically limited to a desired material/ product/ designer/ company, or a movement. As an example, a company that produces only cotton textiles can be examined by students. Examples of the material's texture, colors, artists, history, and areas of use can be presented by research. In

addition, an announcement was made to the students and a list of materials they should bring for the workshop on the day of the lesson was sent. The list of required materials is as follows:

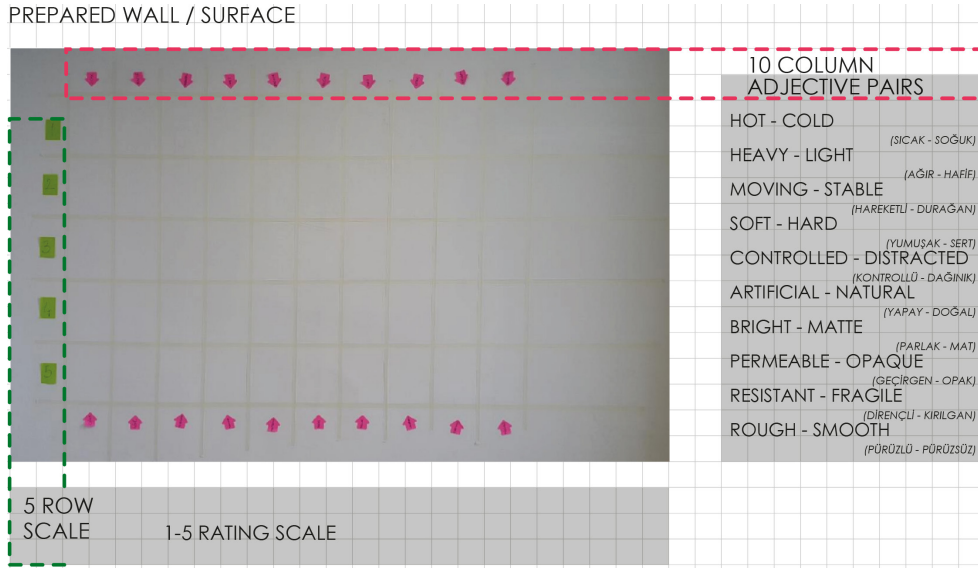
- Tools for cutting (ruler, utility knife, cutting pad, etc.)
- Tools for sticking (tape, glue, etc.)
- Tools for drawing (pen, eraser, marker, etc.)
- 35x50 cm white drawing paper
- Paper tape
- Post-it
- 5 images (2 copies for each)

After clarifying the requirements within the scope of the workshop and conveying them to the students, the requirements for the space were revealed. The work area is arranged according to the requirements of the workshop. The venue where the workshop will be held has been chosen in such a way that it can accommodate 60 people and has a large white surface or wall. In order for the workshop to take place, the desired surface had to be prepared as shown in Figure 1.

Preparation of the specified surface was the first step of the workshop. A grid of 10 columns / 5 rows were created on the surface with the help of paper tapes. Adjective pairs were added to the columns of this table prepared with the students with the help of post-its. Adjective pairs were chosen by the instructors prior to the workshop among word groups that would not have any negative effects and were frequently encountered in Interior Architectural Studios. In the workshop, the ten adjective pairs mentioned were found appropriate and sufficient. The adjectives are placed in the columns so that the pairs are on the same axis. For example, while the adjective warm is at the top of the first column, the adjective cold is placed under the same column on its axis. A five-point scale was created on the rows of the table with the help of post-its. From the top grid to the bottom, each row is designed to meet one scale.

### 2.1.2. Workshop: Patch-Merger 1st phase

Following the organization of the workshop area, the various stages were communicated to the students. The initial step involved determining



**Figure 1.** Prepared surface and scale system (Prepared by Authors, 2022).

study groups based on the number of participants. A total of 49 students were instructed to form 10 groups, each consisting 4 to 5 individuals. Once the groups were established, the students were tasked with selecting three pairs of adjectives displayed on the wall, curating images they had brought, and hanging five of these images on the wall. For this particular task, a sample was created in the studio, and a selected image was analyzed and categorized within an adjective pair column according to a 1-5 scale.

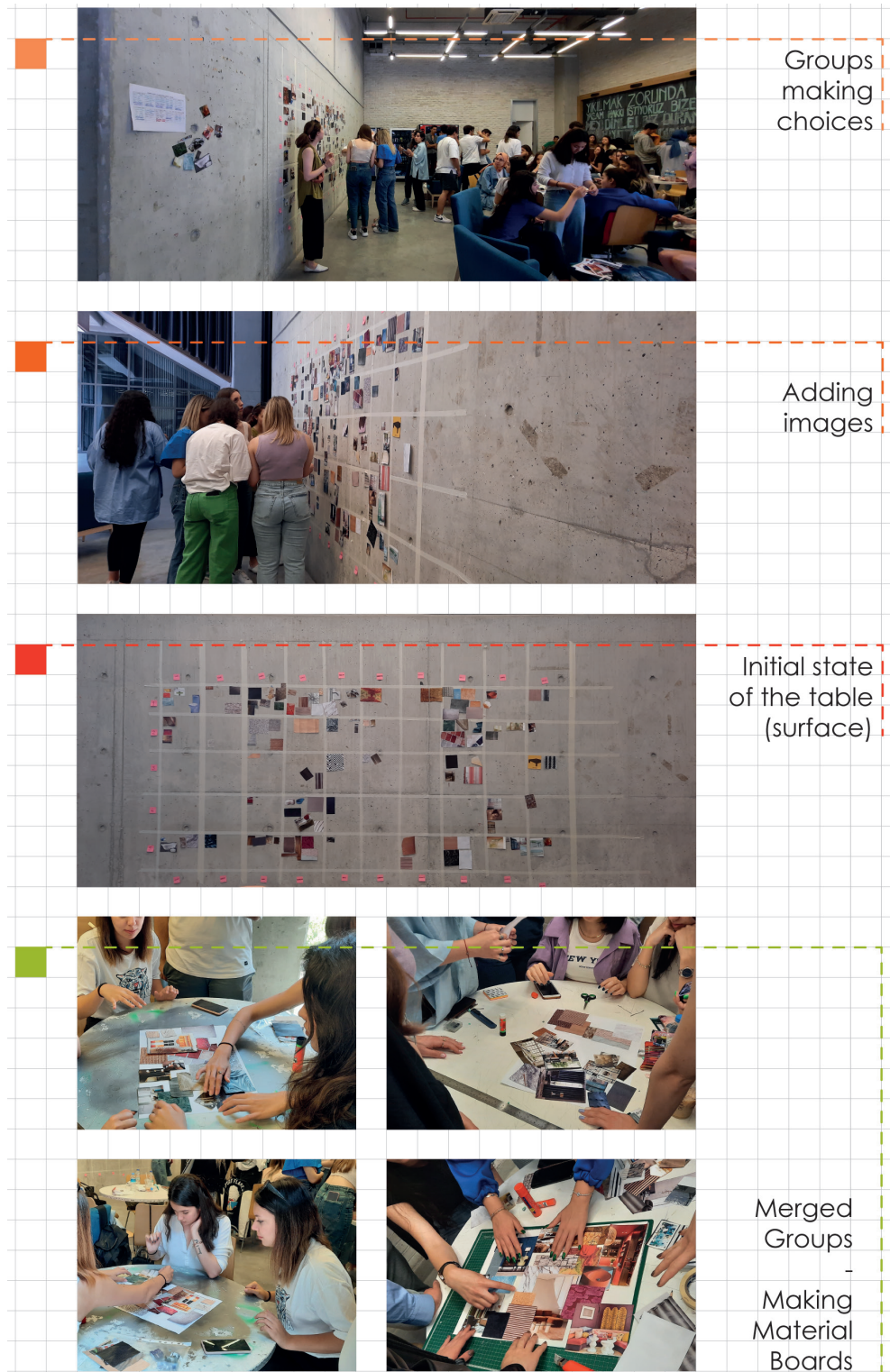
For example, if a seating (product) is placed on the surface, the adjective pair must be determined first. Due to the structure of the product, one of the soft-hard or hot-cold pairs can be preferred due to the texture of the fabric. If 1 indicates hot and 5 indicates cold in the selected adjective pair, it is considered appropriate to place it in a range of 1-3, since it creates a warm impression due to the texture of the product. After a similar sampling, the students were given 30 minutes and they were expected to choose the adjective pair and the images (materials/products). After the selection, the images were placed on the surface by the groups (Figure 2).

After these stages, the surface was opened for discussion and each group was asked to state their ideas and suggestions about the table in general. In this way, it is aimed that all groups have an idea and express their opinions about all the materials/products

at hand. At the same time, empty and overfilled areas on the surface were evaluated. The important thing is to create a discussion environment on the images and to be able to make a collective analysis.

After the discussion, some changes were made in the places of the images on the grid. An idea was taken to distribute the images in the same adjective pair and scale. At this stage, the surface was photographed and the things to be done for the second stage group work were explained to the students. It is planned to change the group dynamics in order to keep the students alive. The 10 working groups were reduced to five working teams by combining both groups. The five rows on the surface are distributed to the combined groups according to the group number. The final stage of the workshop progressed depending on these rows and the images on it. It was expected that each group would create a material board by using the images on the row and the value of the adjective pairs (scale) to which they were attached.

For example, the combined 4th group was expected to construct a material board from row 4. In row 4, no images were assigned to the adjective pairs 'moving-stable, artificial-natural, and resistant-fragile'. In this case, the students should consider the adjective pairs with images while creating the atmosphere. Making a layout with the images in their hands and arranging the materials, products, and col-



**Figure 2.** Adding the selected images to the workshop surface and material boards (Prepared by Authors, 2022).

ors in harmony were the last stages of the workshop. They were asked to make a board on the 35x50 cm white paper they were asked to bring. They were also expected to bring this board to the studio the following week, and to prepare a text about the space they constructed. The text was expected to

reflect the atmosphere constructed through material product and adjective pairs. At the end of the workshop, groups started to work on creating a material board (Figure 2).

The stages of the workshop held, the time given and the contents are presented in Table 1.

**Table 1.** First phase of workshop (Prepared by Authors, 2022).

WORKSHOP: PATCH-MERGER			
	Stage	Content	Time
First Phase of Workshop	1	Preparing the Workshop Environment Preparing the Workshop Surface	45 min
	2	Making groups (initial group structure - 10 groups)	15 min
	3	Teamwork	30 min
	4	Image and adjective pair selection	30 min
	5	Teamwork	30 min
	6	Adding images	15 min
			2 hour 45 min

### 2.1.3. Workshop: Patch-Merger 2nd phase

The second part of the workshop was held and completed on the next week's course hour and day. The presentation of the material board, which was given as a task in the first phase of the workshop, was carried out by the groups. A total of 5 groups presented the 5 material boards they created within the scope of the workshop. Each group was asked to imagine a space containing the materials/products/designs on the board they created and to verbally convey the atmosphere of it. The groups convened the space-atmosphere description they prepared as text while presenting their maps (Figure 3).

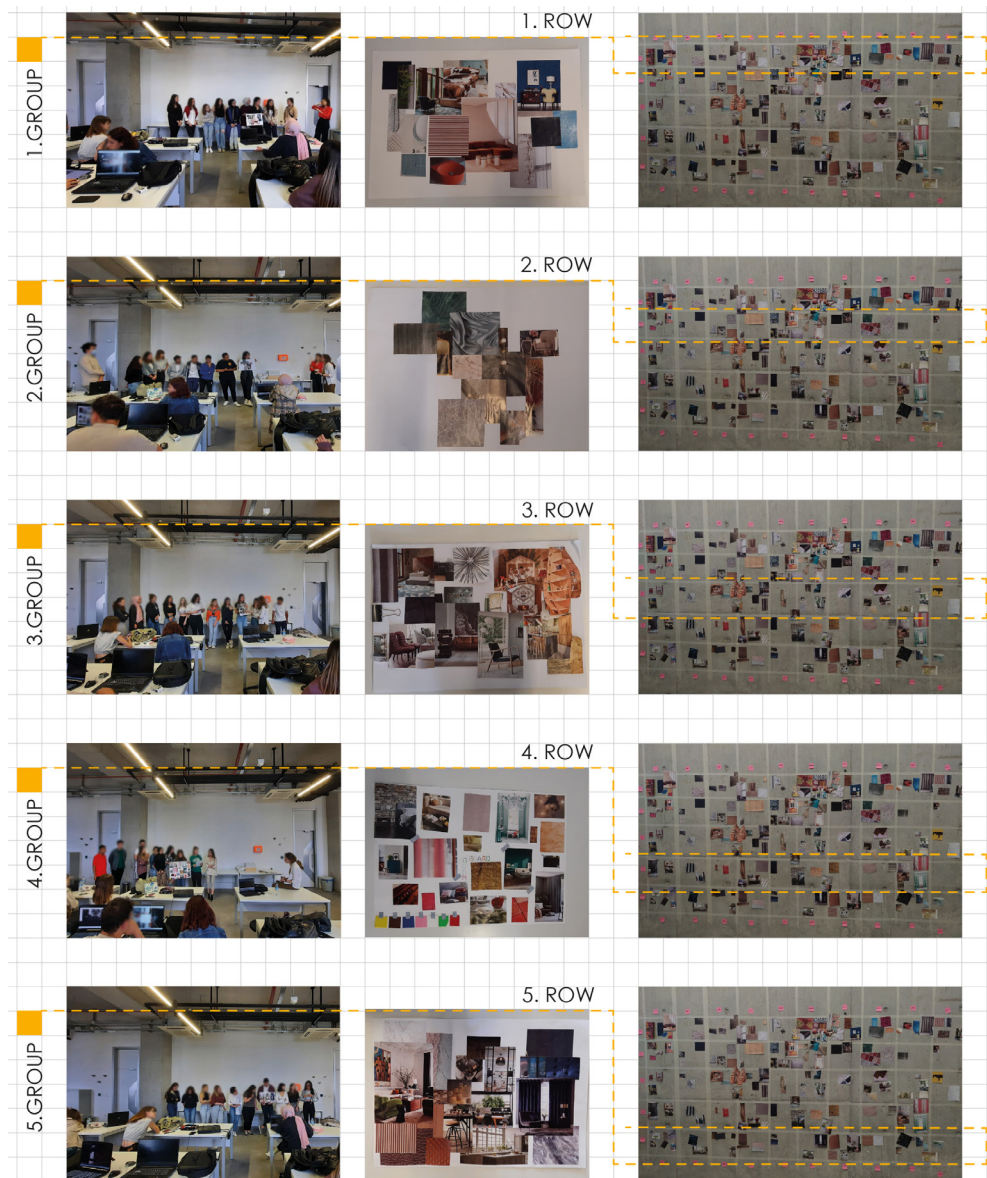
In this part of the study, students were expected to be able to establish the material-adjective-atmosphere relationship. In addition, it was an expectation of this step of the workshop that they sifted through the images in the row they were dealing with, being selective, and creating relationship diagrams while turning the images into a board. The material boards shown in the presentation were discussed in the studio, and the elements that should be included in a material board were also examined. The stages, content, and duration information of the second week of the workshop are summarized in Table 2. The details given to the students regarding the material board planned to be created are also given in the table.

The two-week workshop ended with the students presenting the boards they created. The aim of the study is to create a contemporary approach to the Construction and Materials course and an innovative environment where students can express themselves.

### 3. Findings

It was aimed to measure the effect of the workshop on the participants. In order to understand the effect of the workshop, the survey was prepared and asked to the participant students on a voluntary basis (Table 3). The total number of students participating in the survey was 43. While preparing the questions, the interaction of the workshop with the Construction and Materials course, the material-atmosphere relationship, the interior space-atmosphere relationship, the workshop-studio relationship, and its contribution in preparing the material board were taken into consideration. Since the mentioned criteria were effective during the preparation and implementation of the workshop, it was aimed to measure these criteria with the survey in the same direction. The survey questions are shown in Table 3.

The survey analysis based on the first 8 questions is shown in Figure 4. Question 1, 2 and 8 received highly positive answers. According to the survey results, the workshop has been a memorable practice. It has been memorable in examining the visuals of the interior and positive feedback has been received about the awareness that the student wants to create. In addition, it is concluded that it is a guide for the student in preparing a material board for studio lessons. The workshop was supportive in establishing the relationship between material and atmosphere. The adjectives used to describe the materials in the workshop were descriptive in the choice of the students to use the materials in the space design. The students increased the level of definition of the relation-



**Figure 3.** Presentations and material boards (Prepared by Authors, 2022).

ship between the given adjectives and the materials they used in their designs. It has helped them rethink the relationship of the materials to come together in terms of appearance. The workshop included in the course content contributed to the efficiency and clarity of the course for the students. When the students were asked their opinions about the application and reproduction of such workshop practices in the material course and in different courses, it was seen that they were willing. The answers to the 8 questions asked show that the workshop resulted in supportive and positive responses. When these 8 questions are evaluated by percentage, the results in Figure 4 emerge.

The ninth question in Table 3 was arranged to be open-ended. The question, which was based on getting help from the participants about the content of the study and how it could be improved, was also analyzed.

The ninth open-ended question of the research is as follows:

“Do you have any application suggestions that you think could be more effective within the scope of this course?”

The Participant 9 expressed his thoughts on questions as follows:

“To use more materials, to explain the difficulties and easiness of the example materials, and to give plenty of detailed trips. To go and look at more experience-oriented workspaces - ateliers specialized by materials.”

**Table 2.** *Second phase of workshop (Prepared by Authors, 2022).*

WORKSHOP: PATCH-MERGER		
Stage	Content	Time
1	Principles of material boards created by rows:	1 hour
	<ul style="list-style-type: none"> <li>-The images in the created material board will be evaluated with the adjectives (and degrees) in the columns they correspond to.</li> <li>-The concept/atmosphere of the material board created with the help of adjectives will be determined.</li> <li>-The materials(images) will be placed on the 35x50cm white drawing paper.</li> <li>-Cutting can be done on images according to the atmosphere and composition to be created.</li> </ul>	
2	Presentation	1 hour 15 min
		2 hour 15 min

**Table 3.** *Survey questions' result (Prepared by Authors, 2022).*

WORKSHOP: PATCH-MERGER Survey Questions		Number of yes/no responses received from 43 respondents to the survey
<b>Q1</b>	Was the workshop memorable about the creation of the material board?	42/1
<b>Q2</b>	Did the workshop create awareness about examining materials and atmosphere while looking at various interior design visuals?	42/1
<b>Q3</b>	When looking at a new material, did the adjectives used in this workshop help you describe the material? (Hot - Cold / Heavy - Light / Moving - Stable / Soft - Hard / Controlled - Distracted / Artificial - Natural / Bright - Matte / Permeable - Opaque / Resistant - Fragile / Rough - Smooth)	41/2
<b>Q4</b>	Did this study help you establish the relationship between material and atmosphere?	41/2
<b>Q5</b>	Did this study help you perceive the visual combination of materials with different qualities?	41/2
<b>Q6</b>	Do you think this study contributed to the efficiency and clarity of the course?	41/2
<b>Q7</b>	Would you like such methods to be reproduced and applied in accordance with various course contents?	41/2
<b>Q8</b>	Did this study help you to prepare a material board for your project in the Interior Architectural Studio?	42/1
<b>Q9</b>	Do you have any application suggestions that you think could be more effective within the scope of this course? Can you share with us?	13 people out of 43 people made suggestions.

Similarly, Participant 21 and Participant 35 expressed their opinions as “Excursions can be organized” and “More workshop trips can increase the reinforcement of the course”, respectively, by suggesting organizing trips to reinforce course knowledge in addition to the practice. Participant 41 expressed his suggestion for organizing trips in which the material-atmosphere relationship can be discussed, as “I strongly want space-atmosphere trips to be organized for this subject”.

Among the 13 suggestions received from the participants, the most emphasized subject was the trips.

Participant 22 suggested increasing the physical contact with the material and expressed his opinion as “It may be possible to get to know the materials more physically”. With a similar view, Participant 28 suggested that “Making direct contact with the material by being in one-to-one application areas will support the acquisition of knowledge”. Among the suggestions received from

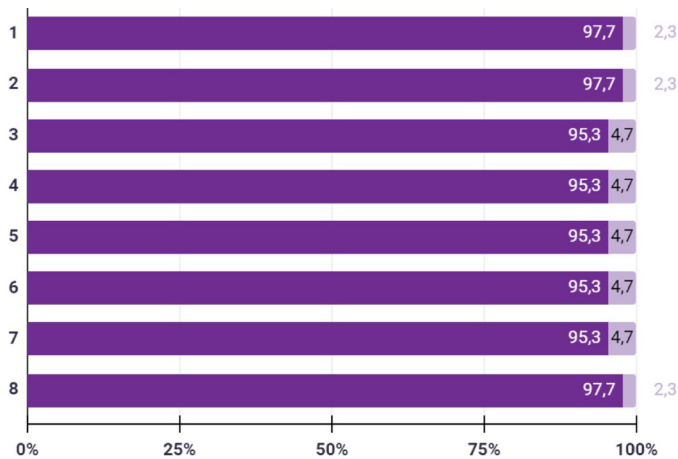


Figure 4. Answers of Survey.

the participants, the second most emphasized element was physical contact with the material.

Participant 38 suggested discussing the material comparatively and said, "Recognition of the material and its usage areas can be investigated further. For example, whether marble or porcelain is better on the kitchen counter, the advantages and disadvantages of the material use can be discussed". Participant 43 suggests reading the materials through the space-atmosphere relationship, in her opinion, which she expressed as "To examine the material through more space examples". The third issue emphasized by the participants was seeing and discussing the material in the interior space.

In the content analysis made on the answers given to the ninth question, it was seen that the suggestions given by the participants were gathered under the categories of trips, contact with the material/ direct relationship, and discussion / examination (Table 4).

At this point, the most emphasized elements are excursions (trips) , physical contact with the material, examining and discussing the material-atmosphere relationship over the product and interior space. When the suggestions from the participants are examined, it is marked that all the elements are gathered on the demand of physically encountering the material at one point. The workshop was organized on the basis of material / product images, considering the access to the physical example of material. This finding was noted as a suggestion to be evaluated within the scope of future studies. Upon the answers, it is seen that the workshop is successful in the subject of memorability, which it aims to bring to the student within the scope of the Construction and Materials course.

#### 4. Conclusion

The workshop was designed to increase students' awareness of the relationship between material, product and atmosphere, to improve their visual

Table 4. Participant opinions.

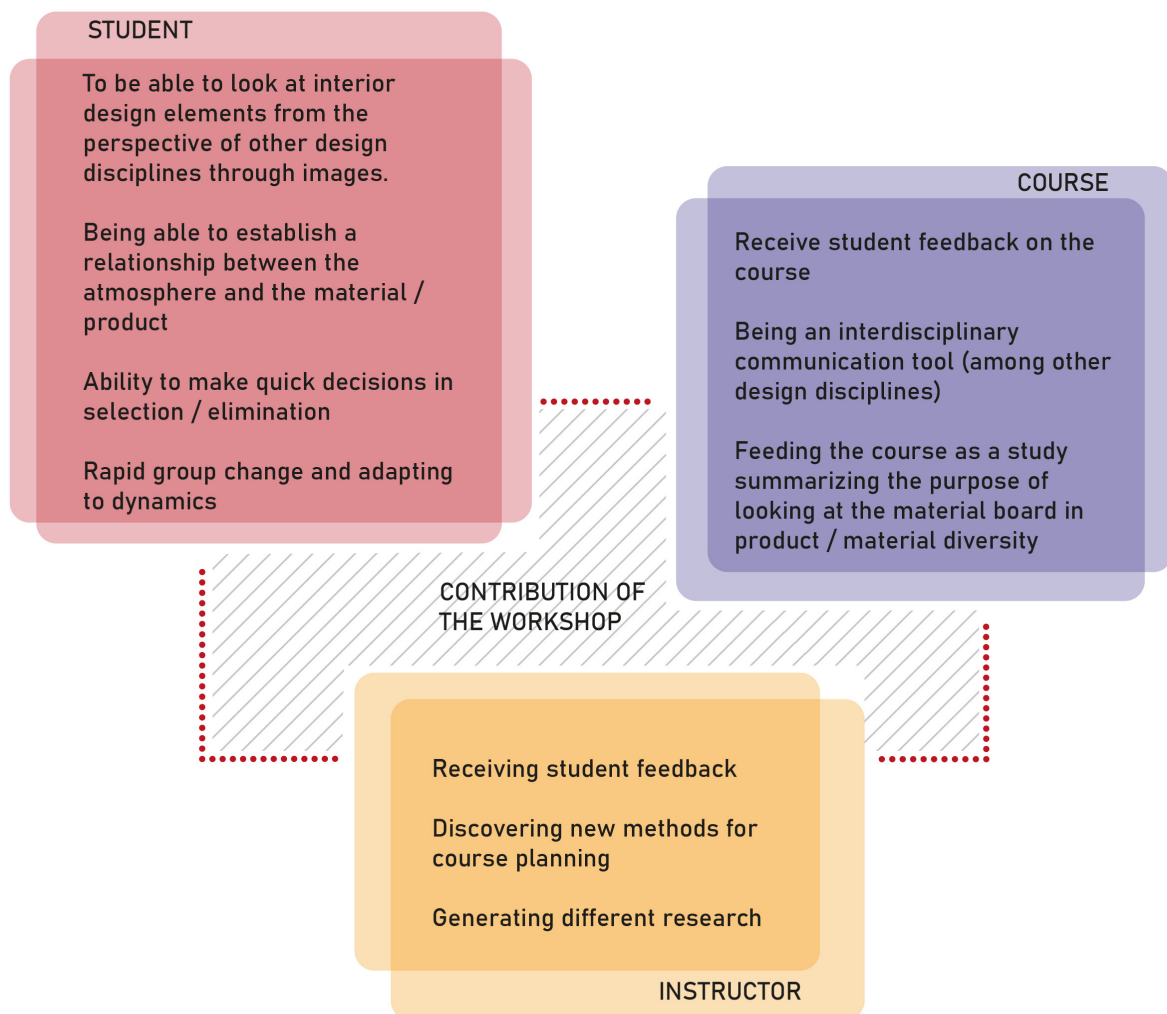
Categories	Participant Opinions
<b>Trip</b>	<p><b>Participant 9:</b> "To use more materials, to explain the difficulties and easiness of the example materials, and to give plenty of detailed trips. To go and look at more experience-oriented workspaces - ateliers specialized by materials. "</p> <p><b>Participant 21:</b> "Excursions can be organized"</p> <p><b>Participant 35:</b> "More workshop trips can increase the reinforcement of the course"</p> <p><b>Participant 41:</b> "I strongly want space-atmosphere trips to be organized for this subject"</p> <p><b>Participant 29:</b> "Trip"</p>
<b>Contact with the material/ direct relationship</b>	<p><b>Participant 22:</b> "It may be possible to get to know the materials more physically"</p> <p><b>Participant 28:</b> "Making direct contact with the material by being in one-to-one application areas will support the acquisition of knowledge"</p>
<b>Discussion / examination</b>	<p><b>Participant 38:</b> "Recognition of the material and its usage areas can be investigated further. For example, whether marble or porcelain is better on the kitchen counter, the advantage and disadvantage of the material used can be discussed"</p> <p><b>Participant 43:</b> "To examine the material through more space examples"</p> <p><b>Participant 19:</b> "More detailed information can given about materials"</p>

reading skills and to support their ability to make quick decisions in the design process. The findings obtained from the questionnaire and open-ended question analyses reveal that the workshop enables students to reinforce theoretical knowledge with practical experience.

The survey results show that the students received positive feedback from the workshop process and that their understanding of the material-atmosphere relationship was strengthened. It was observed that the students were able to more consciously define the relationship between the materials and the space they used while preparing the material board and were able to make aesthetic and functional evaluations during the material selection process. In addition, the integration of the workshop into the course content increased the efficiency of the course and strengthened the interaction of the students with the course.

The findings from the qualitative data show that students offered important suggestions for improving the content of the workshop. In particular, the participants requested direct physical contact with the materials, the organization of hands-on field trips and the discussion of the material-atmosphere relationship through spatial examples. These demands, when evaluated in line with Kolb's (1984) experiential learning theory, once again reveal that concrete experiences play an important role in the learning process. Moreover, in line with Schön's (1983) "thinking in practice" approach, students' production of knowledge through direct observation and practice contributes to the achievement of permanent learning goals of design education.

The workshop also functioned as an important communication and development tool in the student-lecturer-course triangle. For the students, skills such as questioning the rela-



**Figure 5.** Contribution of workshop to design education.

tionship between materials and atmosphere, adapting to group dynamics and making quick decisions were supported, while for the instructor, it was an opportunity to develop new methods in course planning and generate different research topics in line with student feedback. In terms of course content, the variety and quality of the material boards prepared by the students provided important data for the evaluation of the learning outcomes of the course (Figure 5).

The observations and inferences made during the implementation of the study also reveal some areas for improvement in the workshop process. It was observed that students concentrated on certain adjective pairs, were not selective enough in the selection of visual materials and lacked oral expression skills. This situation points to the

need to provide diversified vocabulary pools, to conduct sample studies on the selection of visual materials, and to add content that supports oral presentation skills during the workshop.

The hypotheses stated at the beginning of the study are discussed in Table 5. Accordingly, it is seen that H1, H2 and H4 are supported and H3 is partially supported due to the fact that although the students developed more definitions about material selection, deficiencies were found in visual material selection and verbal presentation skills.

As a result, the workshop realized within the scope of this study stands out as an effective tool for students to develop a holistic view of material knowledge, atmosphere perception and design process. It was emphasized by the students that the workshop should be enriched with more applica-

**Table 5.** Hypothesis evaluation.

HYPOTHESIS	RESULT	SUPPORT STATUS	EXPLANATION
<b>H1</b> Interactive workshops within the Construction and Materials course will positively impact students' ability to connect materials with the atmosphere of interior spaces.	Students have improved their understanding of the material-atmosphere relationship.	<b>SUPPORTED</b>	Survey results show that students have increased their awareness of the material-atmosphere relationship and are using materials more consciously in their designs.
<b>H2</b> Student engagement in creative activities as part of the course will enhance the clarity and efficiency of learning, improving overall course comprehension.	The workshop has improved the efficiency of the course and the clarity of the learning process for students.	<b>SUPPORTED</b>	Students reported that the workshop strengthened their interaction with the course content and made their learning process more effective.
<b>H3</b> Students involved in interactive workshops demonstrate greater self-efficacy in selecting and applying construction materials in their design projects.	Students have shown a more conscious approach to material selection, but there are still areas requiring development.	<b>PARTIALLY SUPPORTED</b>	Students have developed more definitions related to material selection, but deficiencies were observed in visual material selection and verbal presentation skills.
<b>H4</b> The integration of material lessons with design studios through interactive methods will foster stronger connections, leading to more effective learning outcomes in interior architecture students.	The workshop has enriched students' learning experiences when integrated with the course content.	<b>SUPPORTED</b>	Students stated that the integration of the workshop into the course positively impacted their learning experience and strengthened their engagement with the course.

tions and field experiences in order to develop an educational model in which both theoretical and practical methods are used. In addition, diversifying and increasing the number of this workshop model by integrating it into different courses during the semester will create a sustainable development area in design education.

In future studies, in addition to applied studies that provide direct physical contact with the material, pre- and post-workshop measurements of the level of knowledge can be conducted, enabling a more detailed analysis of learning gains in quantitative and qualitative dimensions. Longitudinal studies can also be used to evaluate the sustainability of the impact of the workshop practices by monitoring how students' material use practices evolve during the design process. The workshop model developed in this study is considered to offer an important approach that supports experiential and multidimensional learning in the field of design education. However, testing and developing the model in different contexts will further deepen its contribution to learning processes.

## References

- Akın, F., & Pedgley, O. (2016). Sample libraries to expedite materials experience for design: A survey of global provision. *Materials & Design*, vol 90, 1207-1217. <https://doi.org/10.1016/j.matdes.2015.04.045>
- Altay, B., Ballice, G., Bengisu, E., Alkan Korkmaz, S., & Paykoç, E. (2016). Embracing student experience in inclusive design education through learner-centered instruction. *International Journal of Inclusive Education*, 20(11), 1123-1141. <https://doi.org/10.1080/13603116.2016.1155662>
- Ashby, M.F., & Johnson, K. (2014). *Materials and Design: The Art and Science of Material Selection in Product Design* (3rd ed.). Butterworth-Heinemann.
- Bolton, G. (2010). *Reflective Practice: Writing and Professional Development*. London: Sage Publications.
- Burgess-Van Aken, B. (2017). Knowing Where You're Going: Planning for Meaningful Course Closure. *College Teaching*, 65(3), 130-136. <https://doi.org/10.1080/87567555.2017.1279586>
- Dodsworth, S. (2009). *The Fundamentals of Interior Design*. AVA Publishing.
- Friedman, K. (2012). Models of design. *Visible Language*, 46(1-2), 1-20. <https://doi.org/10.5325/visuallang.46.1-2.0001>
- Folić, B., Kosanović, S., Glažar, T., & Fikfak, A. (2016). Design-Build Concept In Architectural Education. *Architecture and Urban Planning*, 11(1), 49-55. <https://doi.org/10.1515/aup-2016-0007>
- Gezer, H. (2012). Malzemenin Gizil Güçlerinin Mimariye Katkısı. *İstanbul Ticaret Üniversitesi Fen Bilimleri Dergisi*, 10 (20), 97-118. <https://dergipark.org.tr/tr/pub/ticaretifbd/issue/21360/229125>
- Guo, F. (2016, March 7-9). Switching from lecture to design workshop. *Proceedings of the 10th International Technology, Education and Development Conference (INTED2016)* (pp. 2383-2389). IATED. <https://doi.org/10.21125/inted.2016.1503>
- Heidegger, M. (1998). *Bilim üzerine iki ders* (H. Hünler, Trans.). Paradigma Publications. (Original work published 1954)
- Kauppila, T. (2018). Interiors of pedagogy. *Interiors*, 9(2), 194-206. <https://doi.org/10.1080/20419112.2019.1573519>
- Kolb, D.A. (1984). *Experiential learning: Experience as the source of learning and development*. Upper Saddle River, NJ: Prentice Hall.
- Lawson, B. (1997). *How Designers Think: The Design Process Demystified*. Biddles Ltd, Guildford & Kings Lynn.
- Manzini, E. (1986). *The Material of Invention*. Milan: Arcadia Edizioni.
- Mezirow, J. (1990). How critical thinking activates transformative learning. In J. Mezirow & Associates (Eds.), *Fostering critical reflection in adulthood* (p. 168). Jossey-Bass.
- Norman, D. (2007). *Design of Future Things*. Basic Books.
- Osgood, C.E., Suci, G. J., & Tannenbaum, P. H. (1957). *The Measurement of Meaning*. University of Illinois Press.
- Perker, D.Z.S. (2011). Mimarlık Öğrencilerinin Malzeme Bilgisinin Arttırılmasında Fabrika Gezilerinin Rolü: Metodolojik Bir Analiz. *Sakarya University Journal of Science*, 15 (1) ,

82-88. <https://dergipark.org.tr/tr/pub/saufenbilder/issue/20675/220626>

Rastogi, T. (2023). The complementary role and impact of workshops on students in fashion design education at amity university gwalior. *Shodhkosh Journal of Visual and Performing Arts*, 4(2), 87-109. <https://doi.org/10.29121/shodhkosh.v4.i2.2023.458>

Rognoli, V., & Levi, M. (2004). How, what, and where is it possible to learn design materials. In *DS 33: Proceedings of E&PDE 2004, the 7th International Conference on Engineering and Product Design Education* (pp. 647–654). The Design Society. 2–3 September 2004, Delft, The Netherlands.

Schön, D.A. (1983). *The Reflective Practitioner: How Professionals Think in Action*. New York: Basic Books.

Yıldırım Okta, B. (2019, June 21). Mimarlık eğitiminde yaparak öğrenme: Bir bölü bir. XXI. <https://xxi.com.tr/gorus/yazi/mimarlik-egitiminde-yaparak-ogrenme-bir-bolu-bir>

Yürekli, F., & Yürekli, H. (2004). *Informal education in architecture*. *Open House International*, 29(2), 31-40.

Yorgancıoğlu, D., & Güray T. (2018). Mimari tasarım eğitiminde alternatif yaklaşımlar: Bir mekân tasarımı stratejisi olarak “parazit mimari”. *MEGARON / Yıldız Technical University, Faculty of Architecture E-Journal*, 13(1), 144-155. <https://doi.10.5505/megaron.2017.74946>

Wilkes, S.E., & Miodownik, M.A. (2018). Materials library collections as tools for interdisciplinary research. *Interdisciplinary Science Reviews*, 43(1), 3-23.

Zuo, H. (2010). *The selection of materials to match human sensory adaptation and aesthetic expectation in industrial design*. *METU Journal of the Faculty of Architecture*, 27(2), 301–319. <https://doi.org/10.4305/metujfa.2010.2.17>

Zhou, Z., & Rognoli, V. (2019). *Material Education in Design: from Literature Review to rethinking*, in Börekçi, N., Koçyıldırım, D., Korkut, F. and Jones, D. (eds.), *Insider Knowledge, DRS Learn X Design Conference 2019*, 9-12 July, Ankara, Turkey. <https://doi.org/10.21606/learnxdesign.2019.17078>