



# Environmental Approach In Interior Design Education In Turkey

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## **Abstract**

These days there has been a severe encroachment on nature, a large amount of waste being generated, and natural resources being used irresponsibly during the design, application and usage phases of buildings. Environmental sensitivity is necessary during the construction of new buildings and re-usage of current buildings to resolve environmental problems. In order to increase environmental sensitivity, a great responsibility falls onto interior design along with other disciplines during the creation of living spaces. The accumulation of knowledge from career training and the level of awareness will determine the practical development of environmentally sensitive interior design. Therefore the purpose of this article is to make a determination of the current state of environmental design in interior design education in Turkey. The degree to which environmental design is reflected in the curricula of interior design departments was studied.

## **Keywords:**

Sustainability, Environmental Approach, Environmental Awareness, Interior Design Education, Student Awareness.

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The relationship between the awareness level of the students and the educational programs will be presented through three samples. Surveys were conducted at three universities that have varying degrees of environmental design within the interior design curricula. As a result, the importance of having an environmentally conscious design understanding within the curricula of interior design and recommendations for improving the environmental design awareness of students will be presented in this article.

## INTRODUCTION

Buildings are being held responsible for the rapidly increasing environmental problems due to the interfering of the buildings' design, application and usage with nature, the production of waste, and the irresponsible consumption of natural resources. For these reasons, with the help of concepts such as sustainability and ecology, environmentally friendly building designs and applications have been developed. Therefore, during the process of designing buildings and re-functioning of existing buildings, the need to devote more care to environmental design has become a necessity. These winds of change are being seen in interior design, just as they are being seen in all the disciplines that make up the built environment, and this brings great responsibility to interior designers.

Just as it is discussed in design based disciplines and in other areas, it is a well-known fact that the issue of environmental consciousness has come under consideration quite late in interior design. Faulkner (2007) explains in which subject areas how the subject is approached by positioning environmental design within the associated city planning, urban design, landscape design, architecture, interior design, engineering, and similar design disciplines. Of the seven areas he mentions, Faulkner refers to interior design as the last discipline to recognize environmental design due to the fact that it became organized independently at the latest. He justifies this by explaining that despite being realized for many years, interior design was recognized very late as an occupation and thus the formal education for it also began late (Faulkner, 2007). In the short time that has elapsed since the publication of Faulkner's book, interior design applications that have been influenced by environmental design have increased in Turkey and in the world. Brooker and Stone (2011) mention that the renovation of existing buildings using environmental design has increased the importance given to interior design. In addition, they explain that the increase in environmental design within interior design has also increased the awareness level of the profession.

As the importance of environmental design within interior design increases every day and is discussed in differing

circumstances, the need for this approach to be included in education was understood (Ruff and Olson, 2009; Gürel, 2010; Zuo et al, 2010). The knowledge and experience these interior design students are receiving during their education carries importance in the development of environmentally friendly interior designs as they will be the ones implementing these spaces. To this end, it is our aim to discuss the place of environmental design within interior design education and share findings regarding the development of environmental design awareness of students in education.

### **THE PURPOSE OF THE RESEARCH, METHODOLOGY AND LIMITATIONS**

The purpose of this article is to conduct a situational analysis of the environmental context of interior design education and to discuss recommendations for improving the environmental design awareness of students. To accomplish this, the extent to which environmental design is reflected within the curricula of interior design departments was studied. The analysis of the curricula in terms of course types, course-to-credit ratios, and course content was chosen for methodology. The core and elective courses within the curricula were studied to this end. It was aimed to determine the relationship between the educational programs and the students' awareness levels via the three chosen samples. Surveys were conducted at three universities which were determined through analysis which put forth the varying levels of importance given to environmental design in their curricula of interior design. The surveys were given to students who were doing their interior design graduation projects in the spring term of the 2010-2011 academic year.

It is a known fact that the interior design studio project is a curriculum course with the most credits. The interior design studio project combines what is learned in theory classes with integrated professional knowledge and lies at the center of learning. For this reason it is unavoidable for environmental designs to influence the project process and its products (Gürel, 2010; Ruff and Olson, 2009). When it is considered that every student attaches a different meaning to the studio process, which includes many inputs and various information, the studio projects occupy an area outside this study that focuses on quantitative methods. The effect the courses have on the project will be dealt with in the second part of this study when the level of student consciousness is explained. The second limitation of the study is that the review of the courses and their content is formalistic. The way the course is taught and the interaction between the students and the faculty are also important

concepts to consider. However, the difficulty in quantifying and evaluating these concepts has led them being left outside the scope of this study.

The interior design departments that were included in this study are the ones that appear in the 2010 Student Selection and Placement Higher Education Programs and Registration booklet. The educational content of these interior design programs was accessed through the Internet and any missing information and/or updates were obtained from the interior design department heads via e-mail<sup>1</sup>. However, any institution for which no information was able to be obtained or no current information was available due to the reorganizing of the departments, was not included in this study<sup>2</sup>.

(1)Universities Internet site were accessed in 15 January 2011 to 2 February 2011. The interior design department heads were expected to return until 1 March 2011.

(2)Universities that cannot be included in the study are Akdeniz University, Anadolu University, Atılım University, İstanbul Aydın University, İstanbul Bilgi University, Kocaeli University, Selçuk University, TOBB Economics and Technology University and Yeditepe University.

(3)These universities are Bahçeşehir University, Başkent University, Beykent University, Bilkent University, Çankaya University, Çukurova University, Doğuş University, Hacettepe University, Haliç University, Işık University, İstanbul Arel University, İstanbul Kültür University, İstanbul Technical University, İstanbul Commerce University, İzmir University of Economics, Kadir Has University, Karadeniz Technical University, Maltepe University, Marmara University, Mimar Sinan Fine Arts University, Okan University and Yaşar University

## THE STUDY OF INTERIOR DESIGN EDUCATION IN TURKEY WITH REGARDS TO ENVIRONMENTAL DESIGN

The study of interior design education in Turkey with regards to environmental design was done by reviewing the interior design educational programs. To this end the core and elective courses within the curricula were studied. The credit weight of the courses and the course content were the main focus. In Turkey, the departments that provide interior design education are called the “Department of Interior Architecture” or the “Department of Interior Architecture and Environmental Design.” Even though the departments may have different names, their aim is to provide interior design education and will be referred to as “Departments of Interior Design” within this study. There are thirty-one such departments in Turkey. Of these departments, complete content information and current course credit weight for twenty-two of them was obtained and included within this study<sup>3</sup>.

### ENVIRONMENTAL DESIGN CORE COURSES

Among the core courses in the curricula of the interior design departments, no courses that are directly related to environmental design were discovered. Therefore the core courses that have an indirect relation to environmental design were determined and their credit weight and content were studied.

Subject material that deals with the basic knowledge of interior design but has been redefined to cover environmental design was studied under the headings of Building Physics courses, Material courses, and Environment-Human Relations courses that exist within the interior design educational programs. The core courses that cover environmental design within the departments and the distribution of these courses among the other courses can be seen in Table 1.

**Table 1.***The Credits Ratios of Core Courses Including Environmental Design*

<b>The Credits Ratios of Core Courses Including Environmental Design</b>				
University	Building Physics/Core Courses Ratio %	Materials/ Core Courses Ratio %	Courses for the Environment Human Relations/Core courses Ratio %	Total %
Başkent University	<b>2,67</b>	-	-	<b>2,67</b>
Işık University	<b>2,86</b>	<b>0,94</b>	-	<b>3,80</b>
İstanbul Kültür University	-	<b>2,74</b>	-	<b>2,74</b>
İstanbul Technical University	<b>4,08</b>	<b>2,55</b>	-	<b>6,63</b>
Kadir Has University	-	-	<b>2,63</b>	<b>2,63</b>
Okan University	-	-	<b>1,82</b>	<b>1,82</b>

As can be seen in Table 1, of the 22 analyzed interior design departments, only six of them have core courses that deal with environmental design. When the subject of environmental design in core curriculum courses is compared to other courses, the ratio is extremely low.

Building Physics courses are important since they cover energy consumption, indoor air quality, and user comfort. The subject of installation in these courses deals with the consumption of water in these areas. To this end, these courses were studied to determine if they were constructed with environmental design in mind. It was seen that most of the Building Physics courses within the educational program of the interior design departments do not have an environmental design focus. Only three interior design departments were found to have included environmental design as a part of their Building Physics courses.

When environmental design is taken into consideration, the subject of materials is covered the most. This is the case because material needs to have such characteristics as being able to be locally found, using little energy within the life-cycle, and being recyclable when faced with environmental problems. Also the interior space finishing materials affect the interior space air quality and, with their life-cycle energy consumption, affect the environment (Kwok and Grondzik, 2007; Wilson, 2000; EPA, 2011a; EPA 2011b). The educational programs of the material courses within the interior design departments have been designed to explain the material's physical and chemical characteristics and its reaction to mechanical effects, and



describe such materials like glass, plastic and metal. It was discovered that environmental design was not included within the course content. However, the material courses in three interior design departments include the new environmental definitions within the field of materials.

Designs that focus on the environment instead of focusing on man have been suggested to resolve environmental problems (Kang and Guerin, 2009). Therefore it is necessary to review the courses that deal with environment-human relations within the interior design educational programs. The “Environmental psychology, environment and human relations, human and environmental factors, the environment and man, and culture and the environment” classes that are a part of the educational programs within the departments were studied as being part of the concept of environment and human relations. Courses that deal with environment and human relations contain the subjects of environmental perception and cognition and their effect on designs in interior design. In addition, definitions of environmental factors that affect the natural environment, the built-up environment, and social environmental behavior are covered in these classes. It is believed that this understanding will not be able to associate with the changes that appear as a result of environmental problems. There are two departments of interior design that include new definitions of the environment within the course content of interior design classes that deal with environment-human relations.

As studies about the interior space environmental quality increase and the importance of this subject on human health is discussed by various circles, the need to revise the Building Physics courses in the face of daily necessities has become apparent. Also, if the Building Physics courses include the energy efficient design approach, the use of renewable energy sources, and the investigation of different energy sources, the environmental knowledge and awareness level of the students will increase. Despite the fact that materials are one of focal points of designs in interior design, the changes that have occurred in this area and in environmental design have not been reflected in the educational programs. However, it can be said that an awareness regarding this matter has been shared with students in some departments. Besides the aforementioned two departments, there are no current discussions being held regarding environment-human relations within the course content of interior design classes.

#### **A REVIEW OF ENVIRONMENTAL DESIGN ELECTIVE COURSES**

One of the important components of any educational program is the elective courses that enrich and add variety to the

entirety of the program. For this reason elective courses were studied in terms of environmental design. The methodology for reviewing the elective courses was by looking for the existence and frequency of key concepts within course names and contents. To this end, courses that include concepts such as “ecology, ecological design, sustainability, sustainable design, solar energy, smart building systems” were established and the credit weight and number of such courses that can be defined as Environmental Design Focused courses were determined. Of the studied 22 departments of interior design, there were no environmental design focused courses within the specified elective courses of twelve of them. As can be seen in Table 2, the courses that deal with environmental design within the educational program have been grouped under different categories to also represent their content emphasis. As can be seen in Table 2, environmental theory classes make up the highest number of classes among the environmental design focused classes in the department. Thus it can be said that elective courses give an emphasis on the theoretical aspect of the environment in the educational programs of the department. While the content of environmental theory classes may exhibit some differences, the general flow of the courses includes environmental problems and their causes, natural resource use, ecology, ecosystem definitions, and an explanation of what ecologic and sustainable design are. Environmental designs are studied over time and the importance of leaving natural resources for future generations is emphasized in the classes. Based on the content analysis of Environmental Theory courses, it was understood that the elective courses deal with the subject adequately and despite the fact that there are only eight such courses, the number is quite high for environmental design focused courses.

Courses that deal with the subject of environmental technology were discussed as a part of the environmental design focused courses. When the environmental technology courses within the departments of interior design were reviewed, a course about smart building systems was found in four interior design departments and a course about computer simulation programs was found in one interior design department. The smart space design courses make up the second highest number of environmental design focused courses after the environmental theory courses. However, the existence of smart building design elective courses in only four departments is a small number. State-of-the-art computer technologies developed by environmental design are not currently reflected in the curricula of interior design.

**Table 2.**  
*Analysis of Elective Courses for Environmental Design*

University	Environmental Theory Courses	Environmental Technology Courses	Courses on Energy and Resource Usage	Environmental Economy Courses
Bahçeşehir University	Ecological Restoration & Tourism			Environmental Management
Bilkent University				
Hacettepe University	Sustainable Design			
Işık University		Smart Buildings and Tomorrow's Life		
İstanbul Arel University		Smart Space		
İstanbul Kültür University	Ecology			
İstanbul Technical University	Design with Nature	Computer-Aided Analysis of Settlement and Buildings Shadow	Building, Climate, Energy Relations	
			Solar Houses	
			Building, Climate, Energy Relations	
İstanbul Commerce University	Environmental Behaviour Sustainability and Environmental			
İzmir University of Economics	Environmental Design and Theory Ecological and Bio-Climate Design	Intelligent and Interactive Spaces		
Karadeniz Technical University			Solar Control	
Maltepe University	Ecological Interior Design			
Yaşar University	Sustainable Architecture Bioclimatic Architecture	Smart Buildings		

The topic of energy is one of the main subject headings in environmental design. Most of the environmental buildings focus on reducing the need for energy. The use of energy in interior design can be minimized by taking into consideration the embodied energy of the materials and the choosing of energy efficient tools and equipment in the design of lighting and air conditioning (Edward, 1999; Jones, 2008; Keonil and Sahachaisaeree, 2010). Courses that focus on the use of energy and resource were found in two departments of interior design. When the importance of the subject matter is considered the number is woefully low. Since the need for energy increases day by day, these lessons will probably become mandatory in the



near future in the educational programs of the departments of interior design.

As environmental problems increase, economic developments and manufacturing processes are being reevaluated. The only course of this kind is called Environmental Management and is offered by the Department of Interior and Environmental Design at Bilkent University. The Environmental Management course has been designed to cover the economic aspect of the environment. The course covers the topics of environmental management, the economic and organizational dimensions of environmental decisions, and building economics. The Environmental Management course is also the only course in the department that deals with environmental design and the only course in all the interior design departments that covers environmental economics.

According to the analysis of the elective courses, 54.55% of the interior design departments in Turkey offer elective courses that are directly related to environmental design and aim to increase environmental awareness and sensitivity. These courses present different topics about environmental design and offer variety. However, there are quite a few problems such as the course being elective, whether it is offered in the fall or the spring, the chance the class may not be opened or the number of prerequisites imposed by the department may be too many, and that the students may not elect to take the course. Therefore, the fact that environmental design courses are only offered as electives and in few universities indicates an insufficient use of resources.

### **THE EVALUATION OF THE ENVIRONMENTAL DESIGN AWARENESS OF INTERIOR DESIGN STUDENTS IN TURKEY**

After studying the interior design programs in Turkey regarding the environment, it was deemed necessary to study the effects of these programs on the students' environmental knowledge and awareness. To this end, based on the topics of environmental design in interior design and the content of the courses formed around environmental design, a survey among the students was conceived. With this survey it was aimed to discover how deeply and at which level the definition and discussion of environmental design occurs in theory and application courses within the area of interior design, and then how this is reflected in interior design studio project.

#### **Regarding The Research Survey Content**

There are close ended in the first half and open ended questions in the second half of the survey. The close ended



questions in the first half of the survey were prepared using the Likert survey classification scale. In the first part the students were asked to assign a grade from 1 to 5 (1 = the lowest, 5 = the highest) under two main headings that were determined by using research about environmental design topics that stood out from the interaction between the environment and space and the content of environmental design courses in the departments of interior design, thus allowing for explanations to be provided for different environmental design topics. The students were expected to evaluate the explanation of the first heading of the survey in their Theory and Application courses and the application of the second heading of the survey in their Interior Design Studio Project. Thus the scale of integration between the undergraduate courses and the studio project in terms of environmental design was aimed to be discovered. There are 17 definitions about different topics and areas with regards to environmental design in the survey. The subjects that relate to environmental design and which the students are expected to evaluate are as follows:

- Group 1. Interior Space Environment Quality – Use of Energy: Definitions 1 - 3 evaluate how climate data influences the design process, improves the environmental quality of the interior space with design decisions based on natural lighting and air conditioning, and reduces the use of energy.
- Group 2. Use of Water: Definitions 4 and 5 evaluate the methods to choose water saving armatures and discuss how water is recycled.
- Group 3. Use of Energy: Definitions 6 and 7 evaluate the conservation of energy in lighting and air conditioning systems.
- Group 4. Use of Materials: Definitions 8 - 12 evaluate if the use of environmental material with their differing definitions harms human health and the quality of the interior air and if the material has inherent energy, is local, reduces the amount of consumption, is recyclable or can be recycled.
- Group 5. Use of Environmental Technology: Definitions 13 - 15 estimate the level of environmental technology, building automation, and computer controlled lighting and air conditioning.
- Group 6. Environmental Economy: Definitions 16 and 17 evaluate the subjects of waste and natural resource management as they relate to environmental economy.

There are two open-ended questions in the second half of the survey.

In the first question the students were asked to state in which theory or application course environmental design was taught. The first question aimed to determine the names of the courses and to deepen the findings regarding the educational programs.

In the second question the students were expected to state which environmental design topics were applied in the interior design studio projects. In order for the students to actively gain an awareness of environmental design and because it is important for these topics to be applied in the studio projects, the second question was posed to students. According to the answers given to this question, it was aimed to determine which environmental design issues are discussed during the studio project and whether or not the students are actively acquiring an awareness of environmental design.

Thanks to the survey, the level and depth of which environmental design topics are taught to the students in the theory and application courses were assessed and then how this was reflected in the interior design studio projects was searched. Therefore the effect of the education on the students' environmental knowledge and awareness was questioned.

### **The Scope of the Survey**

The interior design departments to be included in the survey were determined according to the results from the previous section where the educational programs were evaluated on the basis of environmental design. The first university to be selected was Istanbul Technical University (ITU) because it devoted the most time to the topic of environmental design in its core courses and had the most number of courses that focused on environmental design. Istanbul Kültür University (IKU) gave medium level of importance to the topic of environmental design by focusing on environmental design in its materials class and offering elective courses regarding the environment in their educational program. For this reason Istanbul Kültür University was chosen as the second university for the survey. The last university to be included in the survey was Mimar Sinan Fine Arts University (MSGSU). This university holds the first department of interior design conducted in Turkey and despite not having any environmental design centered courses in its educational program; it was included in the survey to highlight the relationship between the students' awareness levels and the differences in the educational programs. This survey was conducted with the students that had attended all the courses within the educational programs of the interior design



department and were in the process of completing their education by finishing their final projects during the spring semester of the 2010-2011 academic year.

### **ITU Research Results**

The ITU Department of Interior Design survey results can be seen in Figure 1. The estimated distribution of the answers given to environmental topics according to such different emphases as energy, technology, materials and water can be seen in Figure 2.

The topics of environmental design are covered at an average rate of 2.78 (according to a Likert scale of 5) in the theory and application courses and at an average rate of 2.02 (according to a Likert scale of 5) in the interior design studio project in the Department of Interior Design at ITU. Among the core curriculum courses in the department's educational program, the building physics and materials courses are designed to include the issues of environmental design, and these constitute the highest number of environmental design centered courses. However, according to the Likert scale used for the survey, the results are below average. Also the proportion between what was taught about environmental design in the courses with the application of them in the studio projects was quite high. Various interpretations can be made to explain this. The first interpretation could be that despite being a part of the curriculum, the students did not become aware of the issues of environmental design, and thus it did not get reflected in their studio projects. The second interpretation is that there might be difficulties in the way environmental design is covered in the curriculum and the process of it being conveyed to the students. The answers given by the ITU senior students in the Department of Interior Design to the open-ended questions in the second half of the survey were analyzed qualitatively and the following deductions and recommendations were made.

The first question aimed to determine which theory and/or application courses taught environmental design. The students mostly answered this question by listing the course Physical Environment Control I-II in first place. After this course, the students mentioned the courses of materials, building knowledge, solar house, building cost, and finally lighting in cultural and art centers, respectively in their answers.

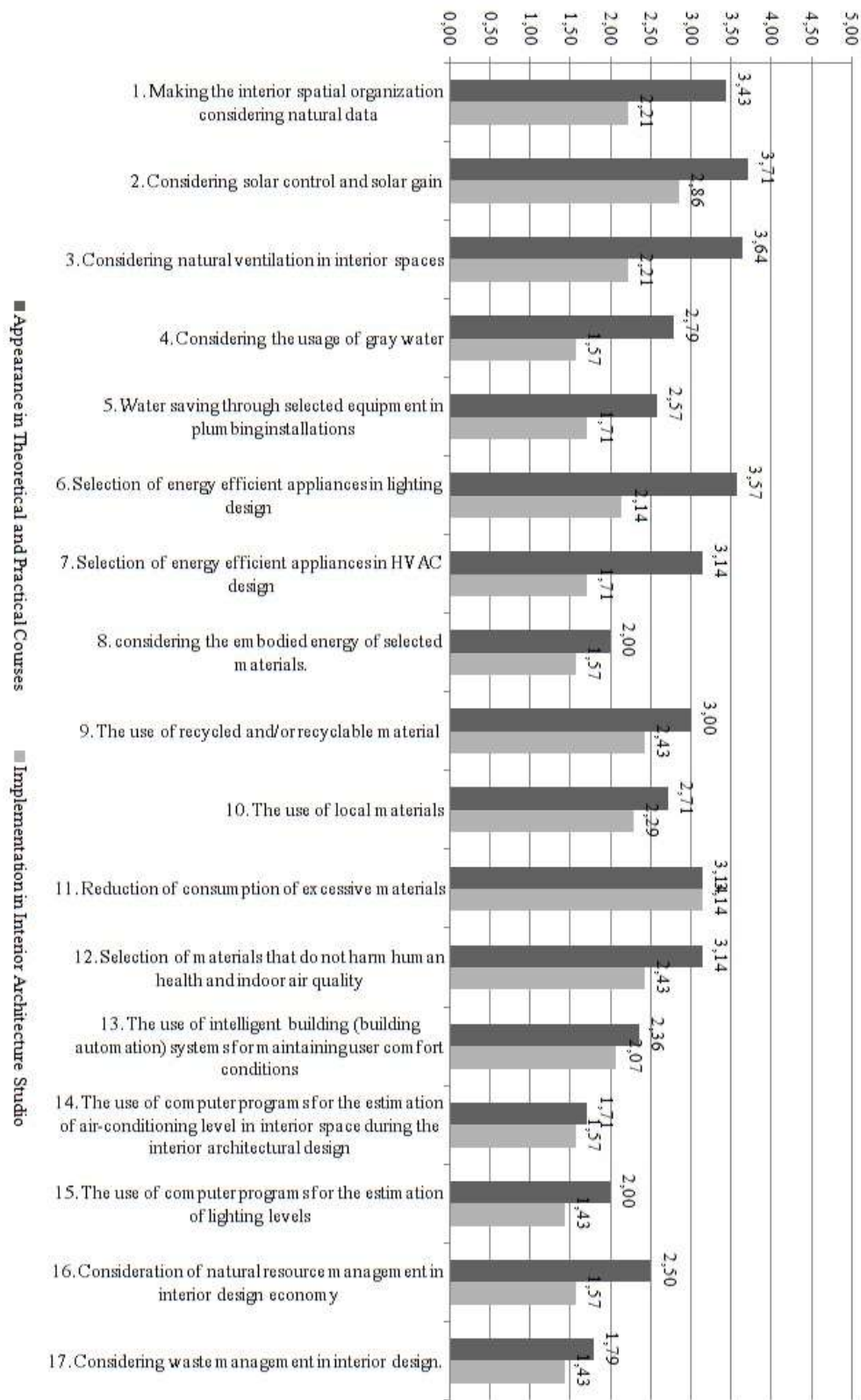
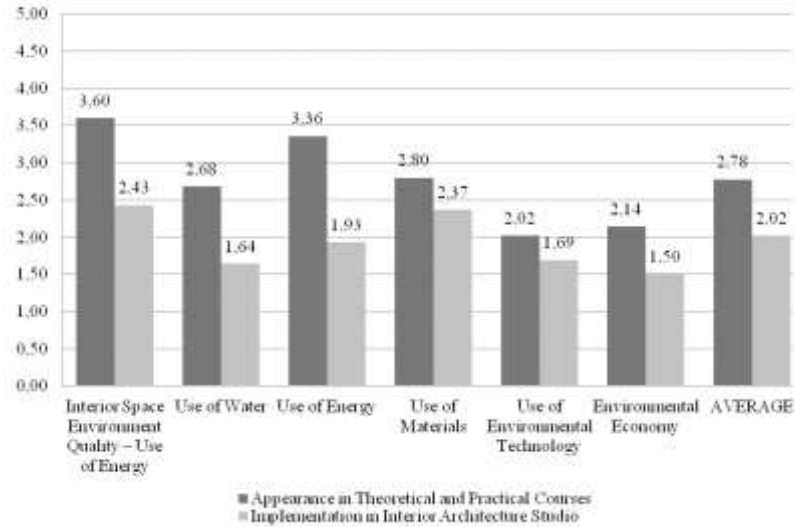


Figure 1.

Figure 1: Percentage and thematic distribution of answers of the

**Figure 2:** Percentage distribution of results received from ITU, according to environmental categories



**Figure2.**

The two most often mentioned courses, the Physical Environment Control and Materials courses are core curriculum courses that have been centered around environmental design. Thus it can be said that the students are provided with the knowledge of environmental design in these courses, but when compared to the low results given to the answers in the first half of the survey, either the students have not developed any awareness or they have not perceived or deduced any kind of awareness.

The second question aimed to determine which topics of environmental design were applied in the interior design studio projects. The students were observed to have responded in a limited but detailed way to include different issues of environmental design. To this end, the student responses were first studied under main headings and then analyzed according to the different fields of environmental design. The fact that the responses were detailed enough suggests that the students are beginning to become aware at a certain level about issues that pertain to environmental design.

Despite the fact that the responses given by the students in the first half were below average according to the five point Likert scale, the students gave limited but detailed responses to the open-ended questions. Also the course names and topics listed in the responses to the open-ended questions indicate that they mesh with the department's environmental design focused core curriculum course content. This situation can be interpreted to mean that the environmental design focused courses contribute to the knowledge and awareness levels of the students, but that the students do not completely perceive and attach meaning to the topic. Even though there are

many elective courses that deal with environmental design at ITU, the fact that only the solar house course appeared in the responses means that the students choose elective courses that are outside the area of environmental design.

### IKU Research Results

The IKU Department of Interior and Environmental Design survey results can be seen in Figure 3.

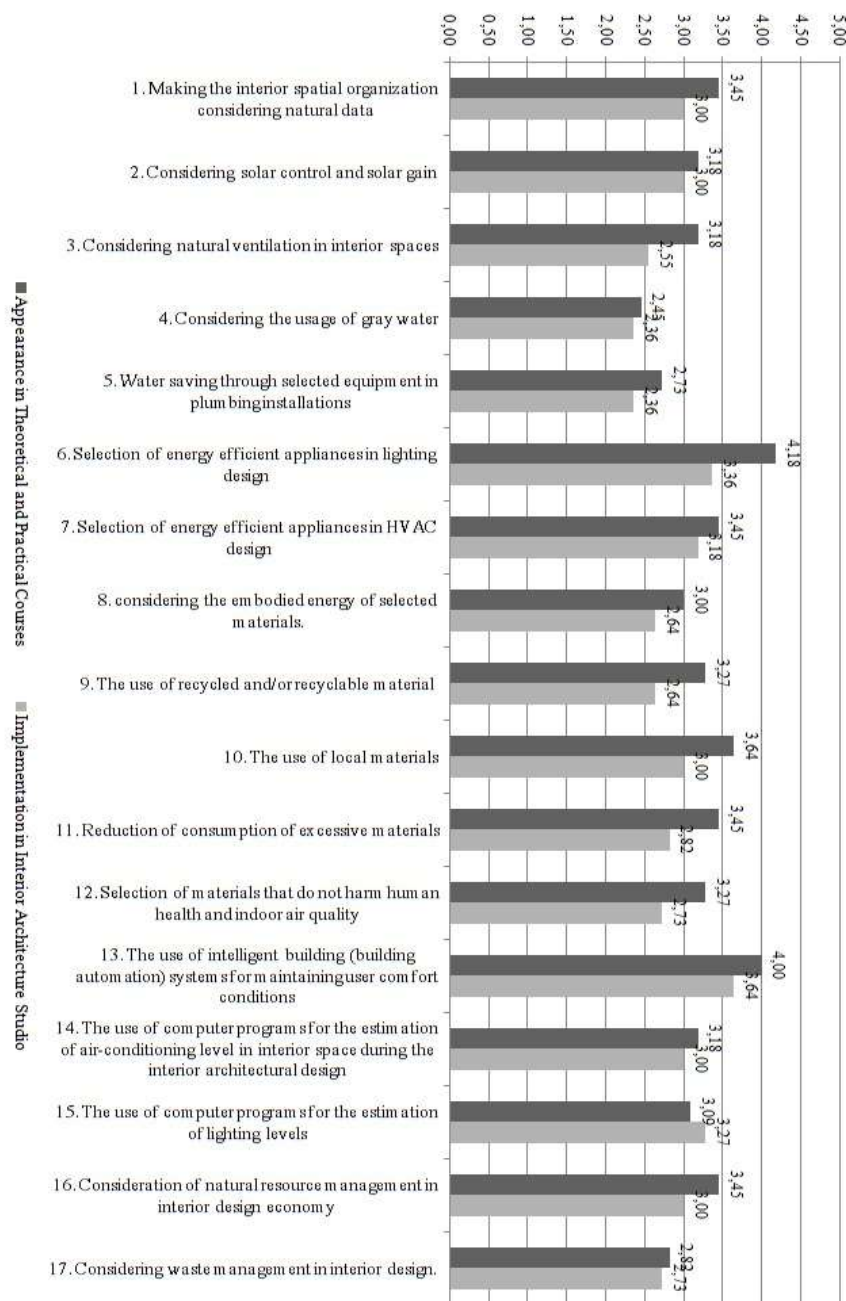
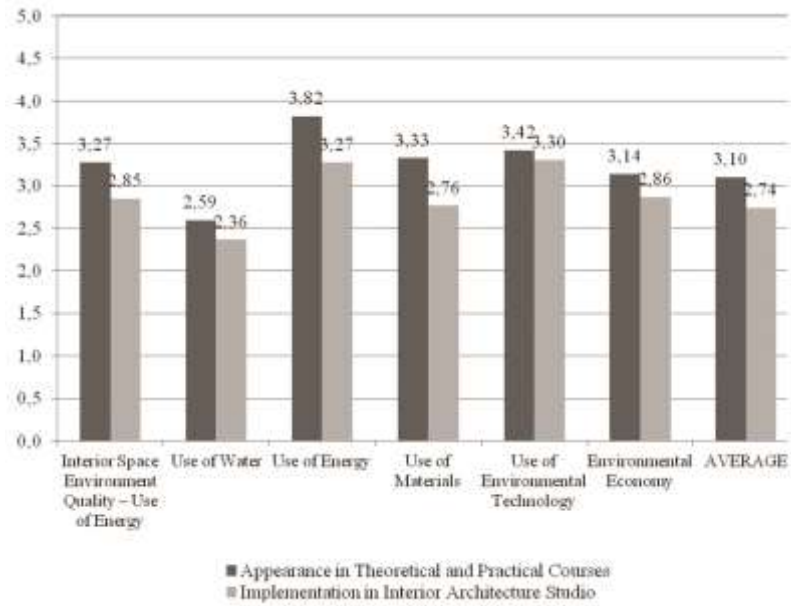


Figure 3: Percentage and thematic distribution of answers of the questionnaire at IKU

Figure 3.

The estimated distribution of the answers given to environmental topics according to different emphases such as energy, technology, materials and water can be seen in Figure 4.





**Figure 4:** Percentage distribution of results received from IKU, according to environmental categories

**Figure 4.**

The topics of environmental design are covered at an average rate of 3.10 (according to a Likert scale of 5) in the theory and application courses and at an average rate of 2.74 (according to a Likert scale of 5) in the interior design studio project in the Department of Interior and Environmental Design at IKU. Despite the fact that there are core curricula and elective courses that focus on environmental design in the educational program of the department, the result of the survey on a Likert scale of 5 is average. In the first part of the study, IKU was determined to have focused on environmental design at an intermediate level in its educational program, so for the results in the first part of the survey to be average on a Likert scale of 5 is understandable. The answers given by the IKU senior students in the Department of Interior and Environmental Design to the open-ended questions in the second half of the survey were analyzed qualitatively and the following deductions and recommendations were made. The first question aimed to determine which theory and/or application courses taught environmental design. The students mostly gave ecology, environmental design and environmental topography as their responses. The ecology course had previously been studied as a theoretical course related to the environment during the study of elective courses that focus on environmental design. Because most of the students list ecology in their responses, this shows that most of the students either choose or are directed to choose this course and this means that environmentally friendly design awareness exists within the curriculum. Most of the student responses include the courses of environment design,



environmental topography, lighting and plumbing that are found not to focus on environmental design when their contents are analyzed. Thus it can be said that the lecturers emphasize environmental design when teaching their courses even if it does not appear in their course content and this positively affects the environmental awareness of the students.

The second question aimed to determine which topics of environmental design were applied in the interior design studio projects. The students responded in a detailed way to include different topics of environmental design. To this end, the student responses were first studied under the main headings of lighting, materials, air conditioning (some responded as heating-air conditioning), ecology, user conditions and building plumbing and were then analyzed specifically with regard to the topic of environmental design. The detailed nature of the student responses under the environmental topic heading indicates that environmental design is viewed from different perspectives. Thus it can be said that an active environmental awareness has begun to be formed in the students.

Despite the fact that the responses given by the students to the heading groups in the first half of the survey were average according to the five-point Likert scale, the students gave detailed environmental design responses to the open-ended questions. This could be interpreted to mean that the students are becoming more aware about environmental design. In their responses to the first question, the students gave the answers of ecology, a theoretical elective course about environment, and different environmental courses. This indicates that independent from the educational program, under faculty initiation, importance is being given to the topic of environmental design. Also, the fact that when the students responded to the second question, they stated that different topics of environmental design were applied in the project indicates that environmental design is covered in various subjects within the curriculum.

### **MSGSU Research Results**

The MSGSU Department of Interior Design survey results can be seen in Figure 5. The estimated distribution of the answers given to environmental topics according to different emphases such as energy, technology, materials and water can be seen in Figure 6.

The topics of environmental design are covered at an average rate of 3.49 (according to a Likert scale of 5) in the theory and application courses and at an average rate of 3.40 (according to a Likert scale of 5) in the interior design studio project in the Department of Interior Design at MSGSU. Despite



the fact that there is no core curriculum or elective courses that focus on environmental design in the educational program of the department, the result of the survey on a Likert scale of 5 is above average. Various interpretations could be made about this.

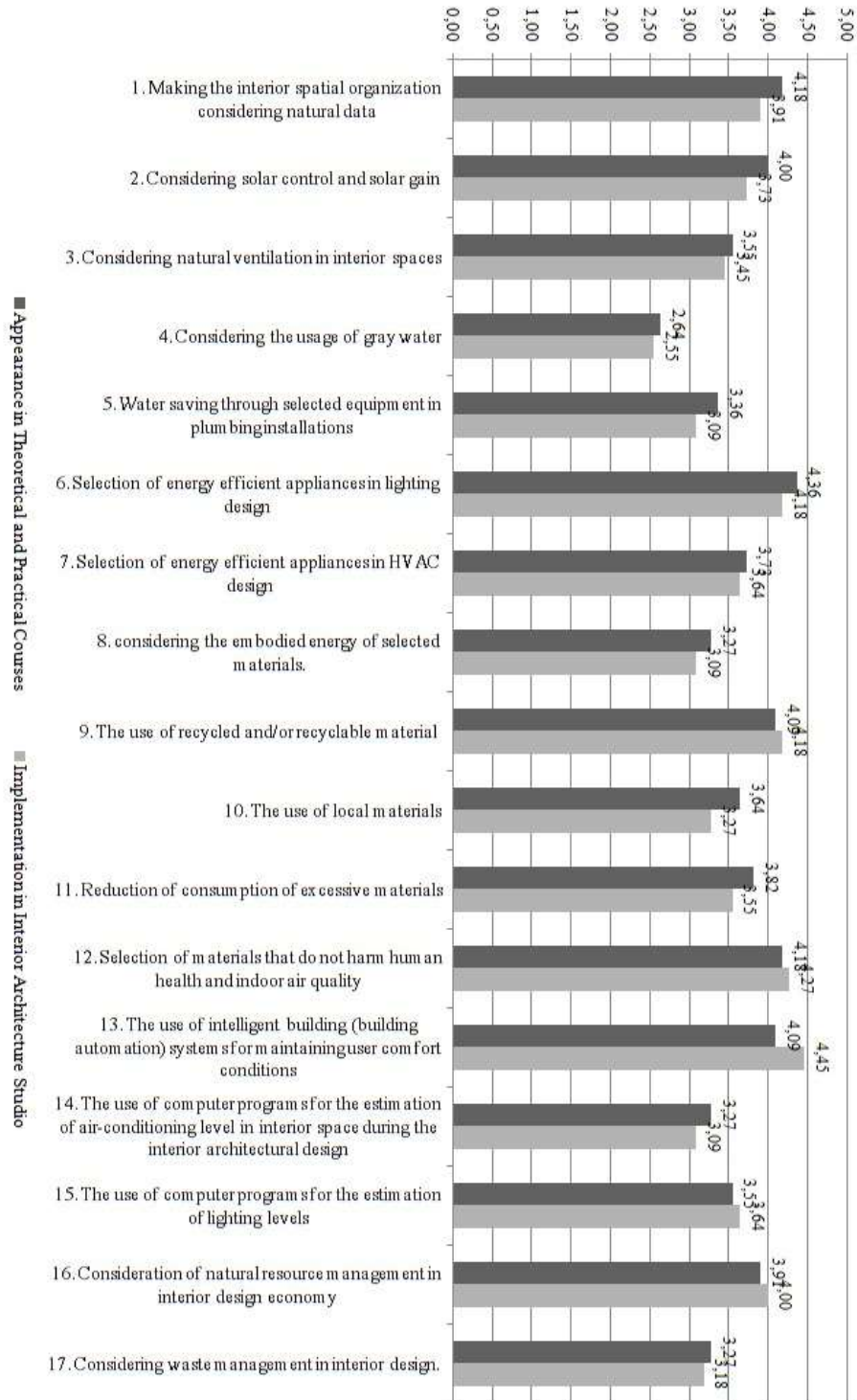
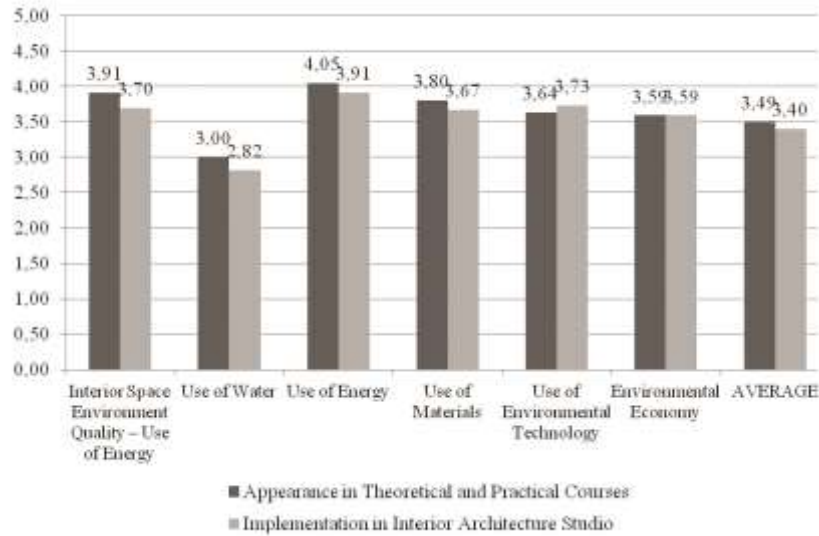


Figure 5: Percentage and thematic distribution of answers of the questionnaire at MSGSU

Figure 5.



**Figure 6:** Percentage distribution of results received from MSGSU, according to environmental categories

**Figure 6.**

The first is that despite not being a part of the curriculum, the faculty covers the material related to environmental design in class using their own initiative and the topic is then applied in the studio project. The second is that the students' backgrounds, lifestyles, and the situation they are currently in have directed them to be more sensitive about environmental topics. The answers given by the MSGSU senior students in the Department of Interior Design to the open-ended questions in the second half of the survey were analyzed qualitatively and the following deductions and recommendations were made.

The first question aimed to determine which theory and/or application courses taught environmental design. The students mostly answered this by stating the lighting course. After the lighting course, the students mentioned the courses of universal design, heating-air conditioning, plumbing, materials, and building cost respectively in their answers. The courses of lighting and heating-air conditioning appear the most in the student responses and are main interior design structural courses. Also among the explanations given in the first part of the survey, there were high occurrences of the responses of energy efficiency in lighting and air conditioning design and the usage of sunlight in interior space. This shows that the faculty formed the courses so as to reflect their own priorities and discussed topics related to environmental design in the classes.

The second question aimed to determine which topics of environmental design were applied in the interior design studio projects. The responses the students gave to the question were too limited and resembled the course names and did not contain sufficient detail. Because the responses were short and



sometimes consisted of only one word, an in-depth study is impossible. To this end, in terms of student perception, either environmental design was not applied in the studio project or was done so superficially, or the students perceived it as such.

When the two open-ended questions were compared, the students gave similar answers; however, the priority given to them internally was different. While environmental materials knowledge was conveyed at a minimum in materials courses, the importance of choosing environmental materials during the project was stressed. Even though the responses given by the students to the different themes of environmental design presented in the first half of the survey were above average according to the five-point Likert scale, the students gave responses that were not detailed and consisted of one-word answers to the open-ended questions. This situation could be interpreted to mean that the students were not actively made aware of the topic of environmental design.

### **Research Results**

Various conclusions and recommendations can be made after the findings from the curricula analysis, and the survey results are compared in terms of environmental awareness. Thus the most important finding of this comparison is that the survey results and the curricula of the departments of interior design do not align. While MSGSU does not include environmental design in its formal educational program, the survey results are above average on the five-point Likert scale, and this is the highest rate among the studied universities. Various extrapolations could be made about this. The first one is that since the MSGSU Department of Interior Design was the first of its kind, over time the updates made to the curriculum were too few. The second is that the topic of environmental design remained outside the formal educational program structure but was included in the program informally. However the lack of detail in the responses to the open-ended questions suggests that even the informal existence of environmental design in the curriculum is not sufficient to create an effective level of awareness in the students.

At IKU, where environmental design exists at an intermediate level in the educational program, it can be said that the students either chose or were directed to choose courses that dealt with this topic. Among these universities, ITU has the most core curriculum and elective environmental design courses. However these survey results indicate that these subjects have not been reflected to the same degree in the awareness levels of the students. This leads one to think that students prefer elective courses that cover different areas of study. Thus it can

be said that ITU allows the students the freedom to choose from among a variety of courses but that the students do not lean towards taking courses about environmental design. In short, despite the topic of environmental design being a part of the universities' curricula, they had a very limited impact on student awareness.

The results of the study show that environmental design exists in various ways in the educational program structures of the three universities. The largest difference occurs in the integration level of the theory courses and the studio projects. Of the studied universities, IKU was found to have most successfully integrated the courses and the studio project. It was observed that the courses at ITU were not efficiently integrated into the studio projects. It was observed that the environmental design topics covered in the courses were integrated in the studio project at MSGSU; however an effective environmental awareness was not present in the students. Thus it can be said that the sensitivity of the faculty members in this regard have made their way into the educational program. However, since MSGSU does not directly offer environmental design classes in its program and leaves the teaching of it to the discretion of its faculty members, the students' systematic knowledge and awareness levels remain limited.

## CONCLUSION

When faced with environment problems, it is important to define and discuss environmental designs that encompass interdisciplinary fields of research and application that have different scales. In this regard, it is important to analyze environmental design starting from urban scale to the design of buildings and their interior spaces. For the development of environmentally friendly interior design products, it is crucial for the current batch of interior design students to become knowledgeable and aware of this issue. To this end, in this research, the scale to which environmental design is reflected in the curricula of the departments of interior design in Turkey, the types of courses, the credit weight of the courses, and the content of the courses were analyzed. Then a survey was conducted at the pre-determined universities. As a result of these analyses and the results obtained from the field studies, the observations and recommendations regarding the inclusion of environmental design in the teaching of interior design and the students gaining awareness are as follows.

According to the analysis of the curricula, there are no core curriculum courses that directly cover environmental design in the educational programs of the interior design



departments. However, according to the survey results, it was determined that the faculty members taught the subject on their own initiative. This positively contributed to the creation of an environmental awareness in the students. On the other hand, as the second half of the survey indicated, this level of awareness is insufficient and does not get properly reflected in the studio project process. Despite the fact that the main interior design knowledge courses utilize environmental design, it is not sufficient enough for the students to acquire knowledge and become aware. When the students choose environmental design focused elective courses, this allows for the students' knowledge and awareness levels to be affected positively. However, the fact that these courses are of an elective nature poses certain problems. It is impossible for all of the students to choose these courses. Consequently, there are differences in the knowledge and awareness levels of the graduating students. As a result, it has become apparent that the courses that deal directly with environmental design should become core curriculum courses in the educational program of the department of interior design. Also, as the study has uncovered, it is extremely important for the students' knowledge and awareness levels that the main interior design knowledge courses utilize environmental design.

In order to effectively increase the students' environmental design awareness levels in their education, it is vital that environmental design is integrated into the interior design classes and the studio projects. However, when the ratios in the first part and the lack of elaboration to the questions in the second half of the survey are considered, it can be said that the students were barely able to apply what they learned about environmental design in the courses to the studio project. As a result, how the students integrated what they learned about environmental design in the courses to the studio project is something that should be studied as a process in another study. Such a study is beyond the scope of this work that focused on course analysis in terms of environmental design and the interaction between the courses and the studio project. With its changing inputs, process and end products, the interior design studio project is an important area of research in terms of environmental design, and it is suggested that studies in this area be done in the future. Also by taking advantage of the analysis of educational programs in terms of environmental design done in this study, further studies that look at the methods and processes of how environmental design is taught in the courses is possible as future study topics.

Including environmental design in the interior design curriculum is crucial for the students to gain knowledge and become aware of it. However, how much of this knowledge and

awareness the student can take, interpret and internalize is up to the student's perception and thinking skills. The internalizing by thinking in different ways and creating various solutions to the same problem is a personal process. As a result, every student has an individual way of learning, and this creates different psychological, learning and teaching theories. To this end, how environmental design should be included in the interior design core curriculum courses should be questioned in terms of these theories. It is also important that the environmental knowledge acquired by the students in the courses is integrated with the studio project according to these theories. Future studies in this area will form a base for the general formation of interior design educational programs along with describing how environmental design should be included in interior design education.

The primary conclusion arrived at in this study is that in order for environmental knowledge and awareness to exist in future interior designers, environmental design should have an active role in both the curricula of the interior design educational programs and their various components. However, it can also be said that the program in itself is not enough, that the sensitivity and commitment of both the faculty members and the students in the educational process carries importance in terms of environmental awareness. In order for this process to be realized, the findings of this study should be considered holistically and reflected in the educational program, and in what way environmental design should be included in interior design education should be questioned by using learning theories and psychologies.

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## RESUME

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