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Landscape Architecture Students' Opinions on Campus Designs: Recep Tayyip Erdoğan University, Rize

[1]Ömer Lütfü ÇORBACI and [2]Yasin Dönmez,
[1]Recep Tayyip Erdoğan University, Faculty of Fine Arts, Design, and Architecture,
Department of Landscape Architecture, Rize, Turkey
[2]Karabük University, Faculty of Architecture, Department of Landscape Architecture, Karabük, Turkey

Abstract: University campuses are not only for education and training activities. Structural and planting arrangements are designed to meet the social and cultural needs of the students who spend their time in the campus. For this reason, the landscape designs of the university campuses, which have a significant place in the identity of cities, should be designed in accordance with the user group. Structural and vegetal applications turn out to be "user dissatisfaction" if not designed according to user requests. In this study, the opinions of the students of Recep Tayyip Erdoğan University, Faculty of Fine Arts, Design, and Architecture, Landscape Architecture Department about the planning of university campuses were taken by survey technique within the scope of Environmental Design and Project course they had taken during the semester. The obtained data was analyzed in SPSS 23 program and interpreted relevantly.

Keywords: *Campus designs, Student opinions, The University of Recep Tayyip Erdoğan*

I. INTRODUCTION

A University Campus is a multifunctional educational space where university buildings, student dormitories, housing for faculty members, social facilities, and other structures connecting all units such as walking paths, green spaces, inner courtyards, plazas, and squares are included. The term "campus" was firstly used for Princeton University, which is located in a large park outside the city (Turner, 1990).

The changing and evolving economic, social, cultural, and recreational needs of the society entailed the planning of universities like a small city on large areas outside the cities. Thus, the concept of the present-day; "campus" has emerged and universities have begun to be established according to certain systems in large areas and far away from the city. Apart from education and training, which are the basic functions of the universities, the university campuses should also include other physical facilities that will meet the needs for studying, nutrition, shopping, entertainment, sports, recreation, health etc. The fact that university campuses bring various functions (studying, accommodation, recreation, communication) together and that the interrelations between these functions must be carried out problem-free, requires them to be handled in a systematic order (Tolon, 2006; Büyükşahin Sıramkaya & Çınar 2012; Aydın & Çepni, 2010; Açıksöz et al., 2014).

As part of the urban landscape, campuses change the city's silhouette and lifestyle, and for many college students, they are places that they live in for four years or more, where they acquire occupational knowledge and daily experience. For this reason, while the university campuses are being designed, cities which are open to the use of young people for 4-5 years, are actually established. University campuses should be settlements where social communication is provided and functions such as work, accommodation, recreation, and transportation are provided, just like the cities (Yıldız & Şener, 2006; Özyavuz et all., 2009).

In urban areas; squares, gardens of public institutions, coastal areas, urban parks, and university campuses are areas that have significant potential for creating green spaces. Thus, a considerable part of the very first universities and almost all of the recently established universities are structured as campuses. Therefore, in the planning of the university campuses, the necessity of considering the landscape planning and design principles arose. Planning the open and green spaces on university campuses as a park is important to enable a peaceful environment for the teaching staff and students, as well as to maintain the quality of the education. In addition, university campuses are planned to meet recreational functions as well as education and training functions. Sports facilities, cultural facilities, open and green area arrangements, and the circulation system connecting these spaces are treated as recreational components (Tanrıverdi, 1975; Pamay, 1979; Yılmaz, 1998; Dönmez et al., 201). A campus is not only a place that meets the basic needs of its people but a place where they feel they belong to and leave memories (Broussard, 2009; Yalçın, 2012).

In university campuses, open and green areas have some important functions. These are: ensuring the integrity of the campus with the buildings, providing the necessary space for the circulation system, establishing a relationship between people and the environment within the campus, creating reserve areas to meet the physical development of the campus, contributing to the campus in terms of aesthetics (Karakaş, 1999). Some changes in the campus cause physical growth. For example, the increase in the number of students in time, the developments in science, and the establishment of some new faculties or departments make it necessary to design the campuses as extendible (Karaaslan, 1979; Erkman, 1990; Ertekin & Çorbacı, 2010).

Looking at the campus from young people's perspective, you see students who are working, resting, or socializing on a large lawn or in the shade of a leafy tree. From the perspective of the designer, we see the buildings which include classrooms, laboratories, conference rooms, offices of the faculty and administrative staff, and the relationship of these buildings with their surrounding and the circulation. However, from a landscape designer's perspective, a campus should be recreational with the outdoor spaces and be able to move the learning process of the students from the classrooms to outdoor (Yılmaz, 2006; Öztürk and Enez, 2015)

Plants make living spaces more livable and vivid. By means of planting design, people are able to meet nature by getting rid of the pressure of daily life (Karaşah, Var, 2012).

Many plant design studies have disregarded the fact that plants are living beings and that they are constantly undergoing a change and development. The plants are generally planted to

places deemed appropriate without taking their characteristics and future dimensions into consideration and just by looking at their initial dimensions at the time they are taken from the nursery garden. Although this does not constitute a problem in terms of plant designs during the first application phase, it has been observed that problems arise as the plant species used survive and their habitats shape. Plants are living organisms that continuously develop throughout their lifetimes and periodically present various habitats and forms. Therefore, it is necessary to comply with design principles during planting design. The plant's functional and aesthetic characteristics must be taken into consideration when designing plants in accordance with the characteristics of the project area (Çorbacı, 2017).

II. MATERIAL AND METHOD

Recep Tayyip Erdoğan University, Zihni Derin Campus constitutes the material of this research. The campus is located in the Eastern Black Sea region on the west exit of the Rize City Center (Figure 1).

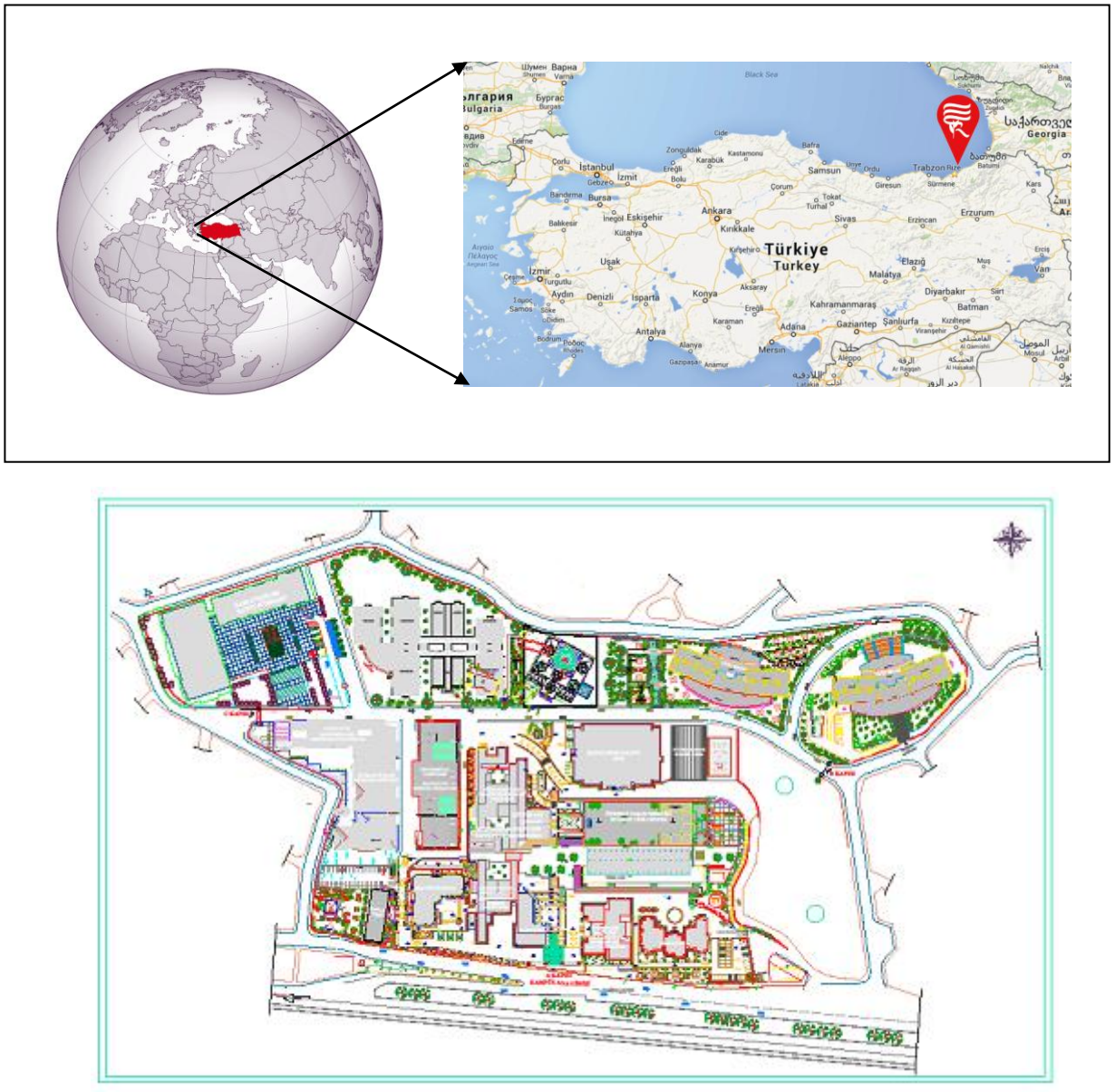

Figure 2. Landscape Design of Recep Tayyip Erdoğan University

The university consists of 3 institutes, 12 faculties, 6 colleges, and 7 vocational schools. The campus also includes the Rectorate Building (963 m²), Faculty of Science and Letters (2824 m²), Faculty of Fine Arts, Design, and Architecture – Faculty of Engineering - Library (3006 m²), Faculty of Economics and Administrative Sciences - Faculty of Law - Vocational School of Justice (4260 m²), Faculty of Theology (3910 m²), Faculty of Fisheries (1168 m²), School of Physical Education and Sports – Indoor Sports Hall (2812 m²), School of Foreign Languages (1487 m²). The additional structural components in the campus are: Congress and Culture Center (4932 m²), Basic Medical Sciences Laboratory Animals Application Unit (109 m²), Research Center (109 m²), Social Facility and Guesthouse (508 m²), 2 Lodging Buildings (1154 m²), 1 Astro Pitch (1065 m²), 1 Tennis Court (508 m²), Mini Basketball Court (50 m²), and the Chess Field (16 m²).

The area of campus buildings is 28,833 m², the area of hard floors is 39,353 m², and the area of green areas is 4,946 m². The whole campus has a total area of 73,132 m². According to 2018 data, the number of Academic Personnel in the University is 1048 and the number of Administrative Personnel is 389. While the total number of students in the university is 21,113, 17,363 of them are at the Zihni Derin

Campus. Accordingly, the amount of green space per person is 0.26 m².

Beside the congress halls, the Congress and Culture Center also includes; the stationary store, hair dressers, canteen, restaurant, dining hall, cafeterias, theater halls, cinema halls, mini markets, golf exercise area, sauna, fitness center, ballroom, air gun polygon, bowling hall, billiard saloon, and an ice-skating rink (Figure 2).

II. RESEARCH METHOD

In this study, the opinions of the students of Recep Tayyip Erdoğan University, Faculty of Fine Arts, Design, and Architecture, Landscape Architecture Department about the planning of university campuses were taken by survey technique within the scope of Environmental Design and Project course they had taken during the semester. The research is based on the question "Does the landscape architecture department students' opinions on university campus plans differ according to their individual characteristics (gender, age, grade, and family income)?" Starting from this point, it was aimed to include all 69 students of the department, thus total population sampling was accomplished.

It is known that, when the universe is limited or broad, reaching out the entire universe is called total population sampling (Ural & Kılıç, 2013: 32). The 23 statements used in the survey was created by making a literature review and assessing the criteria in the article of Dönmez et al. (2015) entitled *"Üniversite yerleşkelerinin planlarına ilişkin öğrenci görüşleri"* and many others. Then, validity analyses were carried out by taking the opinions of experts (faculty of disciplines such as landscape architecture, urban planning etc.) for these statements. Each statement in the questionnaire was graded according to the five-point Likert scale and student opinions were rated as "Strongly Disagree= 1", "Disagree = 2", "Neutral = 3", "Agree = 4" and "Strongly Agree = 5". In addition, demographic data such as gender, age, grade, and household income were also collected in this study. Additionally, independent samples t-test (for two groups) and one way ANOVA (for more than two groups) were used to determine whether the opinions of the students participating in the study varied according to their demographic characteristics. The Tukey test was used for the paired comparison of groups which have a difference according to the results of the variance analysis.

III. FINDINGS AND DISCUSSION

Table 1: Factor and Reliability Analysis Results of University Campus Planning Scale

Statements	Factor Load
1. The number of parking lots is sufficient.	.900
2. Vehicle paths are wide enough.	.800
3. Pedestrian paths are wide enough.	.902
4. The number of recreational fittings (bank, pergola etc.) is sufficient.	.835
5. The number of playfields is sufficient.	.863
6. There are areas suitable for ceremonies, concerts, and other events.	.964
7. The number of lighting units and their intended use are sufficient.	.899
8. The number of water features and their intended use are sufficient.	.826
9. The number of litterbins and their intended use are sufficient.	.898
10. Direction signs are adequate.	.837
11. Open, semi-open, and closed spaces are sufficient to meet needs.	.802
12. Different types of flooring are sufficient for spaces.	.880
13. Vegetal arrangements are adequate.	.875
14. Irrigation systems are adequate.	.895
15. The social and cultural activity areas of the campus are sufficient.	.838
16. Access to social and cultural activity areas of the campus is satisfactory.	.851
17. Campus security is sufficient.	.817
18. Living spaces at the campuses are sufficient.	.848
19. The comfort of the buildings and roads at the campus is sufficient.	.887
20. Landscaping maintenance work at the campus is sufficient.	.902
21. Campus planning is accessible for those with disabilities.	.853
22. The areas for studying are adequate.	.964
23. Open spaces for the sight of the campus are sufficient.	.851
Cumulative variance	**89.885**
General Reliability of the Scale (Cronbach's Alpha)	**0.899**

Kaiser-Meyer-Olkin (KMO)=0.869 *Bartlett test:* χ^2 *=1440.671; p=0.000*

The scale used in the research was subjected to structural validation by factor analysis and the findings regarding validity and reliability are shown in Table 1. According to the results of the factor analysis shown in Table 1, the Kaiser-Meyer-Olkin value revealed the adequacy of the sampling volume (KMO = 0.869) and the Bartlett test revealed the applicability of factor analysis ($\chi 2$ = 1440.671; p <0.001). It was also found that the cumulative variance of the scale was the sole factor, which was 89.885%. The general reliability coefficient (Cronbach's Alpha) of the scale was calculated as α = 0.899. When the reliability (Cronbach's Alpha) coefficient is between "0.6≤α <0.80", the scale is considered acceptable and when it is between "0.80≤α <1.00" it is considered highly reliable (Kayış, 2009: 405).

Table 2: Frequency and Percentage Distributions of the Demographic Characteristics of the Students Included in the Survey (n=69)

Variables	Groups	f	%
Gender	Male	41	59.4
	Female	28	40.6
Age	18-21	19	27.5
	22-25	50	72.5
Grade	Freshman	28	40.6
	Sophomore	24	34.8
	Junior	8	11.6
	Senior	9	13.0
Household Income	0-1000	10	14.5
	1001-2000	29	42.0
	2001 and above	30	43.5

As seen in Table 2, more than half (59.4%) of the students are male, in the age range of 22-25 (72.5%), and freshman

(40.6%). 14.5% of the students have less than □1000, 42.0% has □1001-2000, and 43.5% has □2001 or above household income.

Table 3: Evaluation of University Campus Planning by Gender (t-test)

	GENDER	Avg.	sd	t	p
Campus Planning	Male	4.32	0.46	-1.177	0.243
	Female	4.45	0.39		

P<0.005

Students' views on university campus planning were distributed according to gender. The results of the unpaired t-test are shown in Table 3. According to the table, the students' opinions do not show a significant difference according to their gender (t = -1.177, p> 0.05). This result can be interpreted as students' having a common view on campus planning regardless of gender.

Table 4: Evaluation of University Campus Planning by Grade (t-test)

	GRADE	Avg.	sd	t	p
Campus Planning	Freshman	4.38	0.42	0.451	0.654
	Sophomore	4.36	0.40		
	Junior	4.34	0.39		
	Senior	4.32	0.38		

P<0.005

Students' views on university campus planning were distributed according to their grades. The results of the unpaired t-test are shown in Table 4. According to the table; for this variable, no significant difference between the opinions of the students in terms of their grades (t= 1.451; p>0.05) was determined. This result can be interpreted as students' having a common view on campus planning, regardless of their grade.

Table 5: Evaluation of University Campus Planning by Ages (t-test)

	AGE	Avg.	sd	t	p
Campus Planning	18-21	4.32	0.35	-0.631	0.530
	22-25	4.39	0.47		

P<0.005

Students' views on university campus planning were distributed according to age. The results of the unpaired t-test are shown in Table 5. According to this table, no significant difference between the opinions of the students in terms of their ages (t= -0.631; p>0.05) was determined. This result can be interpreted as students' having a common view on campus planning, regardless of their age.

Table 6: Evaluation of University Campus Planning by Household Income (Anova Test)

Variants/ Campus Planning	Groups	Avg.	sd	F	p	Tukey
Household Income	0-1000	4.34	0.47	0.057	0.945	-
	1001-2000	4.39	0.46			
	2001 and above	4.36	0.41			

P<0.005

Students' views on university campus planning were distributed according to household income. The results of the one-way variance analsysis are shown in Table 6. According to the table, no significant difference was determined (F = 0.057; p> 0.05) according to the household income variable. Therefore, regardless of their household income, students' opinions about the arrangements on the campus are in the same direction.

CONCLUSION AND RECOMMENDATIONS

The number of open parking lots in the campus area is quite inadequate. Therefore, parking lots were built on the basement of the buildings including the Faculty of Theology & Faculty of Economics and Administrative Sciences, Faculty of Law, and Vocational School of Justice. Students are not allowed to enter the campus with their vehicles. This causes the students to have difficulties in bad weather conditions. The parking lot problem of the campus, the expropriation of which still continues, should be resolved through new designs.

The absence of a sidewalk along the main circulation within the campus creates a negative situation for the pedestrians. The vehicles and pedestrians use the same road starting from the main entrance to the Social Facility and Guest House and this fact maximizes the accident risk. The width of the pedestrian paths within the campus is approximately 1-1.20 m. The fact that the new high lighting works were constructed on the sidewalks within the campus delimits walking. Therefore, the widths of the roads and sidewalks need to be rearranged and the lighting elements on the sidewalks must be relocated.

The number of benches, pergolas, and bowers at the recreation areas open to the view of the campus, which dominates the unique beauty of the sea and the green, is inadequate to meet the needs of campus users. The newly built amphitheater open recreational areas in front and on the side of the Faculty of Theology and the Library need to be built on other locations throughout the campus.

The indoor sports hall, tennis court, astro pitch, and mini basketball field in the campus meet the sportive needs of students to some extent, but also cause long waiting durations as there is only one from each.

There are approximately 200 plant taxa within the campus. Although the plant diversity is rich, as the habitat of newly planted plant taxa were completed over time, problems arose due to the planting distances. This causes the planting design to look unpleasant. Despite regular maintenance work, random planting causes plants to be damaged.

The number of lighting elements and litter bins throughout the campus meets the need. It has been determined that irrigation systems are partly sufficient and that this issue should be addressed more carefully with new regulations.

The locations and number of direction signs create difficulties for the users within the campus. It must be ensured that their numbers are increased and they are located in the passage circulation.

Despite the necessary arrangements were made for the disabled, as the campus is located on a sloping land and as at some points the inclination angle exceeds 5%, there are difficulties in terms of accessibility. For this reason, the entrances of open and closed areas must be re-examined and the active use of disabled people must be enabled.

The Bulkhead Line (West Park) project, which will be located on approximately 134 acres in the northern part of the campus area, will provide more opportunities for campus users such as social, sporting, and recreational areas. The findings of the study are important in terms of shedding light to the project and fulfilling the deficiencies.

The views of students who are among the most important users of university campuses are the factors that must be taken into consideration in the evaluation of campus landscape designs. Because the ones who spend most of the time on the campus and benefit most from educational and social activities are the students. For this reason, students' opinions about the campus design will improve the arrangement of these areas, eliminate the deficiencies to serve better, and affect the image and preferableness of the universities.

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