

A Study on Urban Furniture in Rize Recep Tayyip Erdoğan University Zihni Derin Campus *

Rize Recep Tayyip Erdoğan Üniversitesi Zihni Derin Yerleşkesinde Yer Alan Donatı Elemanları Üzerine Bir Çalışma

ABSTRACT

Urban furniture is the most important inanimate landscape materials that reflect the climatic, structural, economic and cultural characteristics of the place where it is located in one or more ways. Within the scope of this study, the design and usage relations of urban furniture and the concept of 'sustainability' will be the main concept that shapes all the targets to be adhered to. Urban furniture, which allows various uses, is indispensable elements, especially in common areas. The most comprehensive model of common use spaces is undoubtedly university campuses. Universities are educational institutions established to meet the needs of societies. It is one of the most important structures that ensure the development of the society and therefore the country. Within the scope of the study; 283 campus users (academics, students, administrative staff and guests) and; A survey was conducted on urban furniture, which was examined in 13 groups: lighting elements, seating elements, border elements, water elements, pergolas, floor coverings, information and communication signs, garbage bins, plant crates, disabled elevators, stairs and ramps, security huts, and artistic objects. As a result of this survey, it will reveal the campus users' relationships with urban furniture, their awareness, expectations and preferences in this regard.

Keywords: Urban Furniture, Campus, Management Model, Campus Street Furniture Information System.

ÖZET

Kent mobilyaları bir veya daha fazla kullanım şekliyle bulunduğu mekânın iklimsel, yapısal, ekonomik ve kültürel özelliklerini yansıtan en önemli cansız peyzaj materyalleridir. Bu çalışma kapsamında, kent mobilyalarının tasarım ve kullanım ilişkileri ile 'sürdürülebilirlik' kavramı bağlı kalınacak tüm hedefleri şekillendiren asal konsept olacaktır. Çeşitli kullanımlara imkân sağlayan kent mobilyaları özellikle ortak kullanım mekanlarının vazgeçilmez unsurlardır. Ortak kullanım mekanlarının da en kapsamlı modeli kuşkusuz üniversite yerleşkeleri olmaktadır. Üniversiteler, toplumların gereksinimlerini karşılamak amacıyla oluşturulmuş eğitim kurumlarıdır. Toplumun, dolayısı ile ülkenin gelişmesini sağlayan en önemli yapılarıdır. Çalışma kapsamında; 283 yerleşke kullanıcısı (akademisyen, öğrenci, idari personel ve misafirler) ile, yerleşkede yer alan; aydınlatma elemanları, oturma elemanları, sınırlandırıcı elemanlar, su öğeleri, örtü elemanları, zemin kaplamaları, bilgi ve iletişim levhaları, çöp kutuları, bitki kasaları, engelli asansörleri, güvenlik kulübeleri, sanatsal objeler olmak üzere 12 grupta incelenen kent mobilyaları ile ilgili anket uygulanmıştır. Bu anket neticesinde yerleşke kullanıcılarının kent mobilyaları ile ilişkilerini, bu yöndeki farkındalıklarını, beklentilerini ve tercihlerini de ortaya koyacaktır.

Anahtar Kelimeler: Kent Mobilyaları, Kampüs Yerleşkeleri, Sürdürülebilirlik

INTRODUCTION

Universities are educational institutions established to meet the needs of societies. It is one of the most important structures that ensure the development of the society and therefore the country. Since university campuses contain more than one structural unit, they are similar to cities and provide opportunities for testing, adopting and developing new applications (Karcı Demirkol, 2019). University campuses are areas where various social and cultural activities take place, interdisciplinary information flow is ensured and the structural environment is defined accordingly. In addition, it has the function of social and economic development and spreading knowledge, value and culture to its environment (Süel Yazıcı, 2007). Nowadays, the livability of urban areas and the creation of sustainable areas are increasing with the increase in quality of life and comfort (Habermas, 2004). The concept of sustainability has become popular in recent years; alternative energy use, recycling and precautions that can be taken, design with waste materials, etc. has improved in these areas (Şatır, 2015). University campuses are points of innovation and idea

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development that raise public awareness about advancing the idea of sustainability and integration in daily life (Abd-Razak et al., 2011).

The popular concept of almost all sectors in the current period has been 'sustainability'. Accordingly, it has become mandatory for the goals to be achieved in designs, productions, trainings, projects and even advertisements to be sustainable. Nowadays, the unconscious consumption of all natural resources that can be converted to the benefit of humans clearly reveals the destruction of the environment we live in today (Şatiroğlu., 2023).

People, whose needs increase day by day, dominate the environment in which they live, but humanity is defeated in this approach. It is a whole with all the environmental (soil, hydrological, geological, lithological, vegetation, location, climate, topography) and human (history, population, social characters, administrative, legal factors) characteristics of the area we live in, connected to each other by cause and effect relationships (Erinç, 1977). The unilateral handling of this whole, aimed only at meeting human needs, leads to failure to achieve the desired goal, consumption of resources, decrease in the quality of life and disruption of the natural balance (Degerliyurt, Çabuk, 2015). In the environment we live in, the unplanned consumption of resources as well as the practices that are not taken or neglected on a management basis to ensure the continuity of resources during the production phase cause the problem to grow even further (Güngör, 2023).

Urban furniture included in the scope of the study is located in the campus; These are urban furniture examined in 13 groups: lighting elements, seating elements, limiting elements, water elements, pergolas, floor coverings, information and communication signs, garbage bins, plant crates, disabled elevators, security huts, stairs and ramps and artistic objects. Literature research has been conducted on the features that urban furniture should have in terms of sustainable use.

It is ensured that the individual's demands are met by using safe, durable, compatible and successful urban furniture in a sustainable environment (Basal, 2002). In this context, within the scope of the study; The results of the surveys conducted with 283 campus users will reveal the campus users' relationships with urban furniture, their awareness, expectations and preferences in this regard.

Urban Furniture

Urban furniture is considered as elements that add comfort and aesthetics to urban spaces and transform these areas into livable environments. Urban furniture is expected to not only meet the needs of urban users but also improve the quality of urban life (Bingöl, 2017). Urban spaces are places where individuals create production as a result of their common use and thus common public structures are built. While they are not only objects but also a living structure within the areas of the city, they also ensure the continuity of social activity and participation opportunities (Erol, 2021). Urban furniture, on the other hand, is defined as mostly fixed service structures in all open areas of the city, for various functions, where the user is uncertain. Urban furniture, within the concept of city, are systems that meet the evolving needs of individuals as a result of a certain process (Hacıhasanoğlu, 1991)

The development of urban furniture develops within the framework of the functional needs of the user's environment, their social and cultural behaviors, their expectations from urban furniture, and their aesthetic and visual values. Urban facilities, which are important in expressing the identity of the city in which they are located, must be permanent visually and systematically. This is not only because it requires being a part of a system, but also because it has a 'language' feature that can be understood by all users (Bayrakçı, 1991).

Urban furniture, located in campus areas that have all the components of the city, has a very important role in giving character and life to the city in which it is located, when the positioning, organization and interconnections of the equipment are evaluated in the light of all these qualities mentioned above (Güngör, 2023).

During the research process, it is seen that; In most studies on urban furniture, the criteria that urban furniture should meet are included. These; According to Çelik (2015), these are Functionality, Aesthetics (Form, Colour, Texture, Perceptibility), Material, Ergonomics, Durability and Safety criteria. Looking at the literature research, there are criteria that are adhered to in the design process of urban furniture. Preferably, in this study, urban furniture was examined with the concepts of Human-Space-Functionality-Technology and Aesthetics and sustainable qualities were revealed at the end of the research. These qualities;

- ✓ Being functional,
- ✓ Material choices are recyclable,
- ✓ Being robust and safe,
- ✓ Economical,
- ✓ Being related to the place where it is located,
- ✓ Being accessible,

- ✓ Being aesthetic,
- ✓ Providing energy efficiency,
- ✓ Easy maintenance and repair.

In line with these criteria, the sustainable design process of urban furniture will be evaluated.

Examining the Concept of Sustainable Campus

Sustainability, a concept that has been explained for various fields to date, emerged in the 1970s. The rapid consumption of natural resources requires that future production be sustainable. In this process; There are certain stages in terms of consumer needs, manufacturer-designer decisions, material supply and recycling of the product to be made. With this situation, managers started to create and implement sustainable projects. (Bay, 2021).

As soon as street furniture gained a sustainability identity; It has a wide range of designs that can change and develop depending on cultural, environmental and economic factors (Güngör, 2023).

Simplicity of expression is very important in the design processes of urban furniture. Every element designed within the human-vehicle-environment system should be considered a part of this system. Again, at this stage, future needs should be taken into consideration and related possibilities should be examined. Urban furniture, which privatizes urban spaces and makes these spaces usable by responding to the needs of users, should establish a bond with each other and the built environment. Urban furniture should be complementary to the space, and the contribution of material and color choices to the whole should be taken into account in their designs (as cited in Çetiner, Köksüz, 1986; cited in Bayraktar, et al., 2008).

The concept of sustainability is a concept that emerges as the ability to be permanent. It emerged to find long-term solutions to prevent environmental problems and reduce their effects. Universities, which have a significant impact on achieving sustainable development goals, are in an important position against environmental, social and economic problems. These organizations make significant contributions to the sustainable development process through research, education and joint ventures (Güngör, Demir, 2018). Universities have a wide scope in the changes in social, economic and political life since the past. These important positions of universities in the national and international arena make them one of the key institutions in achieving sustainable development at different scales and in all areas. This situation increases environmental and social responsibilities both inside and outside the campus (Özdal, Özyılmaz, 2015).

The participation of all stakeholders globally is needed to create a sustainable environment. To ensure sustainability, it is necessary for all stakeholders to change their habits. The aim of educational institutions so far has been to raise people who can meet the needs of society and to produce solutions to their problems. Universities are institutions with a large population that produce new knowledge in society, encourage development and whose main mission is to educate people. Undoubtedly, in this change, the duty of universities is to ensure sustainability in their own structure in order to set an example. It aims to teach sustainability awareness and practices, first to its own population and then to the society, in collaboration with the society, and to develop these practices while conducting scientific research. Sustainable campus; It can be defined as a campus model that minimizes the environmental, economic and social negative impacts that occur while carrying out its activities and tries to be self-sufficient (as cited in Alshuwaikhat and Abubakar, 2008; cited in Karcı Demirkol, 2019).

Designing sustainable university campuses requires comprehensive and long-term process management. In this process, to establish criteria for green/sustainable university campuses; It becomes one of the most important components that requires infrastructural, managerial and business thinking. In this regard, the United Nations Environment Program (UNEP) has published a tool guide to support universities in developing and implementing their own transformation strategies in the process of creating green, resource-efficient and low-carbon campuses. Its source is the sustainable planning, design, development and management of university campuses. In addition, the guide aims to increase the sustainability performance of universities on the global platform (Özdal Oktay, et al., 2015).

Universities are the core institutions where the culture of society is created and they provide an education system within the framework of the goals they set. They offer a campus life in this direction. This is why campus design decisions and practices are important. University campuses have great responsibilities in creating a sustainable future. They are institutions where environmental protection awareness can be taught both theoretically and practically (Erdoğan, 2009).

MATERIAL

Working Area and Boundaries

Recep Tayyip Erdoğan University, chosen as the study area; It is a university with units in Rize center and İyidere, Derepaşarı, Güneysu, Çayeli, Pazar, Ardeşen and Fındıklı districts. At Recep Tayyip Erdoğan University; With 15 faculties, 1 institute, 3 colleges, 6 vocational schools and 16 application and research centers; 1262 academic staff members; It has 430 administrative staff and 15,710 students (Url, 1). The study area is located between 41° 2'13.59" Northern latitudes and 40°29'37.34" Eastern longitudes, within the Zihni Derin Campus in the Fener District of Rize Center (Figure 1).



Figure 1. Study Area Boundary.

Reference :Url 2

METHOD

The study area is the Recep Tayyip Erdoğan University Zihni Derin campus, covering an area of approximately 98,000 m². The scope of the study includes Ahmet Erdoğan Mosque, Educational Buildings, Administrative Buildings, Guest House, Parking Lot, Greenhouse Area, Sports Area (Open, Indoor), Social Activity Area (Student Life Center Building), Congress Center and Lodging surroundings within the boundaries of the campus and the campus. The immediate surroundings of the faculties are included. For ease of working on the land, zoning has been made using sidewalks and roads as a reference. Urban equipment elements in all building environments and social areas (seating units, lighting elements, garbage bins, signs and information signs, artistic objects, water elements, cover elements, plant safes, security huts) constituted the basic materials of the study.

As a result of literature readings, the research problem is presented and the purpose, scope and method of the study are stated in general terms. It also includes a summary of studies related to the method of the determined research topic or similar to the topic. Data about the campus were collected; On-site observations were made. At this stage, a survey study was created. This study format was prepared via Google forms and sent via e-mail to the academicians, administrative staff, students and contracted personnel using the Zihni Derin Campus. The population size to which the survey will be applied is 17,443. The formula suggested by Özdamar (2003) was used to determine the sample size.

$$n = \frac{N \cdot P \cdot Q \cdot Z_{\alpha}^2}{(N-1) \cdot d^2}$$

N: Number of universe units

n: Sample size

P: Observation rate of X in the universe

Q (1-P): Rate of not observing X

Z_α : 1.96 for α= 0.05

d= Sampling error

$n = 17.443 \times 0.8 \times 0.2 \times (1.96)^2 / 17.442 \times (0.05)^2 = 246$ people were found. The number of people who answered the survey in the study was 283.

In the last section, in the study of Kılıç, Sungurlu, 2021, one of the surveys containing all the findings; The historical development of sustainability and sustainable design criteria in urban facilities were evaluated.

FINDINGS

In the observations made in this section, statements regarding the analysis and examination of the data collected as a result of the survey are included. As a result of observation and survey study, sustainability analyzes of the equipment were determined.

A survey study was conducted to question the qualities of urban furniture within the borders of the university campus in terms of functionality, maintenance, security, ergonomics, aesthetics, recycling feature, technology and the space identity it adds to the university campus. University students, academic and administrative staff participated in this study with 283 participants.

The survey was answered by 53.4% (151 people) female participants and 46.6% (132 people) male participants. 130 people with 45.9% in the 15-25 age range, 19.4% with 55 people in the 25-35 age range, 18.4% with 52 people in the 35-45 age range, 13.1% with 37 people in the 45-55 age range. 8 people responded with 2.8% in the 55-65 age range, and 0.4% responded with 1 person in the 65 and over age range.

The survey was answered by 58% students, 23.7% academicians, 12.7% administrative personnel, 0.4% contracted personnel, 2.1% workers, and 3.2% people belonging to other professional groups. It is seen that 32.2% of the participants who answered the survey have a master's degree or doctorate education, 30.4% have a bachelor's degree, 23% have a university education, 13.1% have an associate degree and 1.4% have a high school education.

Of the participants who answered the survey, 60.4% have 1 to 5 years, 15.2% have 5 to 10 years, 12.7% have 10 to 15 years, 5.3% have 15 to 20 years, 4.6% have 20 to 25 years. It is seen that 1.1% have been using the campus for 25 to 30 years, and 0.7% have been using the campus for 30 years and above.

It is seen that 65.4% of the survey participants use the campus for education purposes, 27.2% for working purposes, 4.9% for residence purposes and 2.5% for other purposes. It was stated that the participants found the material choices used in the urban furniture in the campus correct with a rate of 51.6%. While 53.7% of the academicians did not find the material choices correct, 54.2% of the students found the material choices correct.

60.8% of the participants who answered the survey stated that the urban furniture on the campus did not meet their needs. 68.6% of academics and 56.7% of students stated that they did not meet it (Table 1).

Table 1. Responses of urban furniture according to professional groups in terms of meeting the need.

Job	Yes	No
Academician	21 People	46 People
Student	71 People	93 People
Administrative Staff	12 People	24 People
Contract Staff	1 People	-
Permanent Worker	4 People	2 People
Other	2 People	7 People

Reference:Produced by The Author

Offered to campus users; It is seen that 86.6% answered yes to the question "Would you like to use local materials (wood, stone, etc.) in urban furniture applications within the campus?" Distribution by profession (Table 2) is as follows.

Table 2. Responses by professional groups to the question regarding the use of local materials.

Job	Yes	No
Academician	55 People	12 People
Student	148 People	16 People
Administrative Staff	28 People	8 People
Contract Staff	-	1 People
Permanent Worker	6 People	-
Other	8 People	1 People

Reference:Produced by The Author

The answer to the question "Would you like high-tech materials to be used in the campus offered to campus users?" was 89.4%. Distribution by profession (Table 3) is as follows.

Table 3. Responses of users to smart urban furniture demand by occupational groups.

Job	Yes	No
Academician	60 People	7 People
Student	150 People	14 People
Administrative Staff	30 People	6 People
Contract Staff	-	1 People
Permanent Worker	4 People	2 People
Other	9 People	-

Reference:Produced by The Author

It was observed that 65.4% answered yes to the question "Would you like to get information about the original and sustainable current works that will be carried out regarding the urban furniture within the campus within the RTEU management?" Distribution by profession (Table 4) is as follows.

Table 4. Table 4. Responses of users to the request for information about current studies by professional groups.

Job	Yes	No
Academician	44 People	23 People
Student	106 People	58 People
Administrative Staff	25 People	11 People
Contract Staff	-	1 People
Permanent Worker	5 People	1 People
Other	5 People	4 People

Reference:Produced by The Author

To the question of which of the urban furniture groups in the campus are considered ergonomic and functional in terms of use, list the top 3; It is seen that they mostly choose seating elements with 57.2%, lighting elements with 56.2%, and information and communication signs with 32.5%. Plastic objects with a rate of 5.3% and limiting elements with a rate of 6% were the least chosen urban furniture(Table 5).

Table 5. Distribution of the top 3 urban furniture groups that users find ergonomic and functional by profession.

Job	1st Choice		2st Choice		3st Choice	
	Furniture Group	Number Of People	Furniture Group	Number Of People	Furniture Group	Number Of People
Academician	Lighting Elements	42	Seating Elements	25	Information And Communication Signs	15
	Seating Elements	15	Stairs And Ramps	11	Pergolas	13
	Disabled Elevators	2	Security Huts	7	Floor Coverings	7
	Stairs And Ramps	2	Border Elements	7	Plant Crates	6
	Water Elements	2	Water Elements	4	Water Elements	6
	Information And Communication Signs	1	Disabled Elevators	3	Garbage Bins	6
	Plant Crates	1	Pergolas	3	Security Hut	5
	Security Hut	1	Floor Coverings	2	Disabled Elevators	3
	Border Elements	1	Information And Communication Signs	1	Stairs And Ramps	2
			Garbage Bins	1		
Students	Lighting Elements	91	Seating Elements	59	Garbage Bins	28
	Seating Elements	36	Pergolas	19	Information And Communication Signs	24
	Disabled Elevators	8	Disabled Elevators	17	Plant Crates	21
	Security Hut	7	Stairs And Ramps	16	Pergolas	18
	Water Elements	7	Information And Communication Signs	11	Stairs And Ramps	16
	Stairs And Ramps	4	Water Elements	11	Floor Coverings	15
	Border Elements	4	Security Hut	7	Disabled Elevators	10
	Floor Coverings	2	Garbage Bins	7	Water Elements	8
	Pergolas	2	Floor Coverings	4	Border Elements	4
	Information And Communication Signs	1	Artistic Objects	3	Artistic Objects	3
	Plant Crates	1			Security Hut	2
Garbage Bins	1					
Administrative Staff	Lighting Elements	17	Stairs And Ramps	9	Information And Communication Signs	10
	Seating Elements	11	Seating Elements	8	Garbage Bins	7
	Disabled Elevators	2	Security Hut	5	Plant Crates	4

Reference:Produced by The Author

To the question of which of the urban furniture groups in the campus are the top 3 accessories sufficient in terms of material choice and aesthetics; It is seen that 45.2% specified lighting elements, 31.1% stated seating elements, and 28.6% specified garbage bins.

The answers received by the furniture groups at the highest rate to the question regarding the adequacy of the urban furniture in the campus were; Seating elements are inadequate with a rate of 43.4%, Lighting elements are sufficient with a rate of 48.7%, Garbage bins are slightly sufficient with a rate of 38.8%, Information and communication signs are sufficient with a rate of 44.8%, Plant crates are slightly sufficient for 106 people, Floor coverings are sufficient with a rate of 37.4%, Covering elements are sufficient with a rate of 37.1%. The ratio is slightly sufficient, stairs and ramps are sufficient with 43.4%, Water elements are sufficient with 36.7%. Disabled elevators are slightly adequate with 38.1%, limiting elements are slightly adequate with 39.2%, artistic objects are sufficient with 41.6%, and security huts are sufficient with 53.3%.

When asked which three features do you think the urban furniture in the campus should have, users answered the question; 78.8% responded that it was functional, 70.7% responded that it was solid and safe, and 41.7% responded that it was related to its location. Being economical with a rate of 14.5%, being accessible with a rate of 33.6%, being aesthetic with a rate of 34.6%, providing energy efficiency with a rate of 16.3%, being recyclable in material choices with a rate of 21.6%, and being easy with a rate of 21.6%. It is seen that it prefers maintenance and repair.

The knowledge levels of campus users about renewable energy types are as follows; It is seen that it is inadequate with a rate of 11%, slightly sufficient with a rate of 25.1%, sufficient with a rate of 43.1%, and very sufficient with a rate of 20.8%.

The answer to the user's question regarding the level of material and aesthetic harmony of the urban furniture in the campus is as follows; It is observed that 22.3% responded that they found it at a low level, 48.4% responded that they found it at a medium level, 24.7% responded that they found it at a good level, and 4.6% responded that it was at a very good level.

CONCLUSIONS

As a result of the survey studies, it was concluded that the reinforcements do not form a language unity with each other in terms of material and aesthetics. In order to advance the idea of sustainability and raise public awareness, it is necessary to use recyclable materials and increase energy efficiency in the selection of equipment materials in university campuses, which are points of innovation and idea development.

Although the lighting elements, which are mostly made of metal materials used in the campus area, do not harmonize with the places they are located in terms of material and design, metal is a material that can be recycled infinitely without loss of quality (İpekçi et al., 2017), and therefore it is among the most recyclable wastes. It has an important place. Defined as a green metal, aluminum is a sustainable and environmentally friendly metal. Aluminum, a recyclable industrial material, can be recycled many times to produce the same product (Yılmaz, F. 2016). By recycling aluminum, high amounts of raw materials and energy are saved. For a sustainable future, zero emissions target, combating the climate crisis and reducing carbon footprint greatly reduce energy consumption and greenhouse gas emissions (Çabuk, 2011). In this case, the demand for environmentally friendly aluminum is increasing day by day. The lighting elements used within the campus area were found positive within the scope of these evaluations in terms of material choices being recyclable.

Within the scope of the first chapter article 2 of the regulation on increasing efficiency in the use of energy resources and energy, it covers the procedures and principles regarding increasing efficiency in outdoor lighting, encouraging the use of alternative fuels such as biofuel and hydrogen, and administrative sanctions (Url 3). In this respect, LEDs used in lighting elements within the campus area stand out as the most energy-saving lighting technology. Energy saving and efficiency, ensuring energy supply security, reducing foreign dependency, risks, protecting the environment and increasing the effectiveness of the fight against climate change are among the most important components of our energy policies (Url 4). In addition, in the survey study, lighting elements were evaluated as the most liked equipment by the users in terms of material preference and aesthetics.

Plastic material was preferred for the information and communication signs in the work area. Plastics, or thermoplastics as they are called in polymer material science, are easily recyclable materials. The application areas of recycled plastic materials are increasing day by day with the development of the concept of sustainable design (Öç, B. 2013). Although they are functional, they were found to be insufficient in number within the campus area in the survey study. It was evaluated positively that their maintenance and repairs were carried out regularly and that they were durable and safe.

Although garbage bins were considered insufficient in number in the survey study, they are functional. While the choice of chrome and stainless metal as materials makes them durable and safe, they do not have a unique value for the campus area in terms of aesthetics.

There are only 3 disabled elevators in the entire campus area and they are not working. In the survey results, their numbers were evaluated as insufficient and aesthetics were not found. Seating elements are placed with wooden materials preferred throughout the campus area. While it was evaluated as the most ergonomic and aesthetic equipment in the survey results, its numbers were found to be insufficient within the campus. Their relationships with the places they are located have been evaluated positively. In addition to wood being a preferred material in every field, improving its sustainability will also become a feature that will increase the usability of wood in the future. In this direction, the transformation process of wood is seen as an important stage in terms of the continuity of its sustainability quality (Sezgin, S., & Sever, İ. A. 2022).

Natural stone and stamped concrete were mainly used as flooring materials in the campus area. Natural stone material has been evaluated positively in terms of being aesthetic, durable and safe, and easy to maintain and repair.

The number of artistic objects in the campus area is only 3. In the survey study, 5% of the users found artistic objects successful in ergonomic and functional terms. In terms of material and aesthetics, 92% of the users evaluated it negatively. It was evaluated that their maintenance and repairs were not carried out adequately and their relations with the places they were located were weak.

In general, the material choice of the reinforcement in the area was chosen from local materials and 86.6% of the users evaluated this situation positively. 65% of the users stated that they would like to receive information about the original and sustainable current works that will be carried out regarding urban furniture. 78% of the survey participants stated that urban furniture should primarily be functional, 70% stated that it should be durable and safe, and 41% stated that it should be compatible with the place where it is located. In general, 48.4% of the users stated that the reinforcements were compatible in terms of material and aesthetics.

It is thought that this study will support the RTEU campus, which has taken very important steps in terms of accessibility, to create inclusive, accessible spaces in outdoor arrangements.

REFERENCES

- Abd-Razak, M. Z., Goh Abdullah, N. A., Mohd Nor, M. F. I., Usman, I. M. S., & Che-Ani, A. I. (2011). Toward a Sustainable Campus: Comparison of the Physical Development Planning of Research University Campuses in Malaysia. *Journal of Sustainable Development*, 4(4). <https://doi.org/10.5539/jsd.v4n4p210>.
- Başal, M., (2002). Reinforcement Elements, Unpublished Lecture Notes. Ankara University, Faculty of Agriculture, Department of Landscape Architecture, Ankara.
- Bay, A., (2021). Evaluation of Urban Facilities in Urban-Scale Settlements on the UNESCO World Heritage List in Terms of Sustainable Cultural Heritage and Sustainable Tourism, Graduate Education Institute, Department of Architecture. Master's Thesis. Konya, Türkiye.
- Bayrakçı, O., (1991). Identity Problem in Urban Furniture Design and Its Place in Urban Identity. *Public Spaces Design and Urban Furniture Symposium*, Mimar Sinan University Faculty of Architecture, 75-77, Istanbul.
- Bayraktar, N., Tekel, A., Yalçiner Ercoşkun, Ö., (2008). Classification, Evaluation and Urban Identity Relationship of Urban Reinforcement Elements Located on Ankara Atatürk Boulevard. *Gazi University Faculty of Engineering and Architecture Journal*, 23(1), 105-118 p.
- Bingöl, B., (2017). Associating Urban Furniture with Urban Identity in Urban Spaces: The Example of Isparta Kaymakkapı Square. *Journal of Advanced Technology Sciences*, 6(3), 193- 202 p.
- Çabuk, S. Ö., (2011). Evaluation of the Role of Economic Tools in Combating the Increase in Greenhouse Gas Emissions Causing Global Warming: The Example of the Energy Sector. Ankara University, Social Sciences Institute, Doctoral Thesis, Ankara, 368 p.
- Çelik, K., T., (2015). Creation of a CBS-based campus equipment information system (yedbis): An example of the statutory campus of Karadeniz Technical University. Karadeniz Technical University, Institute of Science and Technology, Master's Thesis. 159 p.
- Değerliyurt, M., Çabuk, S. N., (2015). McHarg's Nature Design Theory and GeoDesign. *The journal of Academic Social Science Studies*, 39/3, 293-306 p. Doi number: <http://dx.doi.org/10.9761/JASSS3038>.
- Erdogan, M., (2009). Examining the Relationship between 'University Performance and Sustainability' in Landscape Planning and Design of University Campuses in the World and in Turkey. Master's Thesis. Istanbul Technical University. Institute of Science and Technology. Istanbul, Türkiye, 103 p.
- Erol, M., (2021). The Effect of Universal Design on Public Spaces: Examination of Kocaeli Darıca Farabi Training and Research Hospital. Master's Thesis. Fatih Sultan Mehmet Foundation University, Graduate Education Institute. Istanbul, Türkiye, 281 p.
- Erinç, S., (1977). Bosphorus and its Surroundings; Natural Environment: Effects and Possibilities (Applied Geography Study), *Istanbul University Geography Institute Journal*, 20(21), 1-23 p.
- Güngör, S., Demir, M., (2018). Examination of the Sustainable Design Process in University Campuses and Suggestions for Sustainable Campus Design at Selçuk University. 204-210 p.
- Habermas, J. (2004). *Public Space*. M. Özbek (Ed. and Trans.), Public Domain (p. 95). Istanbul, Türkiye: Hil Publishing.
- Güngör, K., (2023). Creating a Management Model by Examining the Sustainability of Urban Furniture in University Campuses with the CBS-Based Campus Equipment Information System (Rize Recep Tayyip Erdoğan University Zihni Derin Campus Example) Master's Thesis. Recep Tayyip Erdoğan University Graduate Education Institute.

- Habermas, J. (2004). Public Space. M. Özbek (Ed. and Trans.), Public Domain (p. 95). Istanbul, Türkiye: Hil Publishing.
- Hacıhasanoğlu, I., (1991). Urban Furniture, Technographic Printing, Istanbul
- Karcı Demirkol, A., (2019). Examination of the Environmentally Sustainable Campus Model in the Example of Ege University. Master's Thesis. Aegean University. Institute of Science and Technology. Bornova, Izmir, 161 p.
- Kılıç M., Sungurlu A., (2021). Sustainable Urban Furniture. Online Journal of Art and Design, 9(2). 276-286 p.
- Öç, B., (2013). Sustainable Design: Awareness of Recycling Materials on the Basis of Product Design and Production. Master's Thesis. Institute of Science and Technology, Istanbul Technical University.
- Özdamar, K. (2003). Modern Scientific Research Methods. Eskişehir: Kaan Bookstore.
- İpekçi, C. A., Coşgun, N., Karadayı, T., T., (2017). The Importance of Using Recycled Materials in the Construction Industry in Terms of Sustainability. TÜBAV Science Journal, 10(2), 43-50.
- Sezgin, S., Sever, İ., A., (2022). The Effects and Areas of Use of Recycled Wood in the Context of Ecology and Interior Space. Design Architecture and Engineering Journal, 2(3), 229-237 p.
- Süel Yazıcı, B., (2007). The Importance of Equipment Elements in Forming Campus Identity as a Social Environment: Field Study on Başkent University Bağlıca Campus. Doctoral Thesis. Ankara University, Institute of Social Sciences. Ankara Türkiye. 225 p.
- Şatır, S., (2015). Sustainable Urban Spaces & Urban Furniture. Design + Theory.18 p.
- Şatroğlu, E., Dinçer, D., & Korgavuş, B. (2023). Urban Furniture In The Context Of Sustainable Materials. Urban Academy, 16(1), 566-576.
- Yılmaz, H., (2019). Computer Aided GÜFEFBİS Campus Information System (GIS). Gazi University Institute of Science and Technology, Master's Thesis, Ankara, 80 p.
- Url 1: <https://sayilara.erdogan.edu.tr/>, 2023.
- Url2: <https://earth.google.com/web/@41.03804536,40.49465178,26.67829288a,1266.73803913d,35y,0h,0t,0r>
- Url3:(<https://www.mevzuat.gov.tr/File/GeneratePdf?mevzuatNo=15437&mevzuatTur=KurumVeKurulusYonetmeligi&mevzuatTertip=5>) date of receipt 10.05.2023.
- Url 4: <https://enerji.gov.tr/enerji-verimliligi>