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Functional Assessment of a Square: Case of Düzce Anıtpark

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ABSTRACT

The square can be described as flat, open and wide area where people gather together. In addition, many of them are surrounded by buildings. The squares which include important social events and activities such as shopping, recreation, entertainment, transportation. People also have a constant communication and interaction in these areas. In this study, Anıtpark Square which is the only urban square in the city of Düzce, has been examined from a functional perspective. The aim of this study is to determine the quality of the functions of Anıtpark which is a city square. For this purpose an questionnaire was prepared including the functions of both an ordinary town square and Anıtpark was prepared. This questionnaires has been enforced to the experts and the results were compared. As a result the qualification level of the covering, lighting, plant material, shadow and garbage collection that existing Anıtpark is lower than an ordinary square qualification level s whereas surrounding element, sculpture and accessible design is higher. The qualification level of drainage and resting areas were found smilar rates with the expected rates.

Keywords: City, square, function, Düzce, Anıtpark.

1 INTRODUCTION

Since the first permanent settlements, the squares which are the basic element of the city and a part of the city's culture host activities and important social events such as shopping, recreation –entertainment and transportation [1]. Certainly , from the history till today the most used areas were the urban open spaces while the most effective element of the urban open spaces were the city squares [2].

The square can be described as a flat, open and wide area mostly surrounded by buildings and as the place where people gather together [3,4]. If it needs to be defined more detailed squares defined as three-dimension volumetric arrangements limited by horizontal and vertical volumetric elements are places intertwined with the texture of the city with a variety of social functions [5,6]. The town squares which are one of the important elements of the open and green urban places are areas included within the open and green urban places which are frequently used by the city inhabitants and usually are located within or near to the city center [7]. Squares are urban areas where the individuals constituting the society are in constant interaction and communication and where the urban and sociability cases are experienced the most intensively.

Squares which are one of the important components of the city macroform have important place among the components that make up the urban space according to Kevin Lynch [8]. Square which is one of the first public spaces used by the people has become an important part of the urban life with the different functions it undertakes during this historical process. Squares are defined as the focus points of the urban texture and undertake the function of gathering. Besides, squares maintain their presence as the most important public outdoor areas symbolizing the culture and identity of the city [9,10]. Squares were born due to the need to come to gather in order to ensure the relationship between the city and the society and to

maintain the social life, and have emerged as an important element in the formation of the urban identity and in the provision of the social experience [11].

In this study, the Anıtpark Square which is the only urban square in the city of Düzce was studied from a functional perspective. The aim of the study was to determine that in what extend the town which has unbreakable ties with the social life and urban consciousness carries the functions of the square where the town with its citizens and the citizens with each other establish communication. For this purpose a questionnaire was prepared in relation with the functions which should be owned by a town square in general and the functions owned by the Düzce Anıtpark Square, the prepared questionnaire was applied to experts and the results were compared. Another issue which was intended to be achieved with this study was the development of the suggestions for a more functional use. The absence of another urban public space in Düzce increases the study's importance for the city.

2 MATERIALS AND METHODS

The city of Düzce is located in Turkey's western Black Sea region. It is bordered to the north by the Black Sea to the northeast by Zonguldak, to the east and southeast by Bolu and to the west by Sakarya. In Figure 1 Düzce's districts and its location was given within the borders of Turkey.

Figure 2 showed the satellite image of the Anıtpark which constitutes the study area. Anıtpark which is the main material of this study is located within the Kültür Quarter of the central district. It is bordered to the south by the Governorship of Düzce, to the east and northeast by the Avni Akyol and Inönü Park. Its size is approximately 7800 m² and has the quality of a green area. Besides, it stands out that the neighborhood of the Anıtpark includes mainly trading and residential areas. Due to the fact that Anıtpark is the only area in the nature of a square it is often used at certain times of the year due to street activities including official ceremonies, concerts, exhibitions, open-air meetings, demonstrations and Ramadan activities. Due to the fact that the Anıtpark is located just north of the building of the governorship which is the administrative center of the town and bureaucracy, the square feature of the area is increased. With the above mentioned features Anıtpark turns into a place where the citizens are constantly together, share the urban and the city's culture and which allows the communication.

Another material of the study was the questionnaire applied to the experts. Due to the questionnaire the functions owned by a town square in general and the functions of the Anıtpark Square which was the study area were compared. Photographs taken from the area, articles, hand-outs, post graduate theses found on the related topic as the result of domestic and foreign literature review, are among the materials of the study. The general view of the Anıtpark is shown in Figure 3.

The method of the study can be explained in three work packages. The first work package includes the studies intending to determine the functions of a town square in general. In this sense, the similar studies were reviewed in the literature and about 20 functions found in the town squares, were identified {11, 12, 13, 18, 19, 20]. Then in order to determine the functions of the Anıtpark, observation was carried out and photographs were taken. As a result of this process it was identified that there were 10 functions existing within the Anitpark. These can be listed in the following way; flooring, lightning, drainage, presence of plants, siege elements, shade elements, resting elements, dustbin, plastic elements and barrier free design.

Figure 1. Düzce's location and in Turkey and it's districts.

Figure 2. Anıtpark's location in Düzce.

Figure 3. The appearance of the Anıtpark.

The second work package covers the preparation of the questionnaires and the implementation studies including the conditions of the existence of the above mentioned function within the town square in general and also within Anıtpark which was the working area. It was separately scored that in which degree these 10 functions have to be included within a town square in general and in what extent these function were found in Anıtpark. The scoring should be carried out in the following way; the availability status of the function generally in a square; 5 points certainly it should be available, 4 points very good if it is available, 3 points does not matter whether is it available or not, 2 points it is better if it is not available, 1 point certainly it should not be available. The availability status of the functions in the Anıtpark; 5 points certainly adequate, 4 points sufficient, 3 points nor sufficient neither insufficient, 2 points insufficient, 1 point absolutely insufficient. The surveys were applied to 90 people, in the design and planning issue the experts were selected from the private and public sectors including teachers. At the same time these people were subjected to another prerequisite; they must have participated in a user experience on the same working field. Because it was found out that the experience in a similar work was important and influenced the result [14, 15]. The survey was applied by the face to face interview method.

Within the scope of the third and final work package the obtained survey results were analysed statistically and comparisons were carried out between the availability status of the functions existing in Anıtpark and availability status of the functions which are available in a town square in general. For this purpose, the Paired Sample T Test was conducted. This test is used for the determination whether the difference between the results of two different fields belonging to the variable of a group or sample is important or not at a certain confidence level by comparing the mentioned results [16]. Similarly, it can be investigated whether there is a difference between two interrelated or paired groups by using this test [17]. The result of the analysis is given in the significance column. If this value is less than 0,05 (for 5% significance level) then it can be said that there is a significance difference between the two paired groups. According to these evaluations, recommendations were developed for the functions felt to be missing by considering the current situation of the area.

3 FINDIINGS

3.1 Evaluations on the Squares' Functions in General

According to the obtained results, the average scores telling that the functions hosted by the Anıtpark in what extend were observed in squares generally. Accordingly the highest average with 4,42 point was received by the garbage collecting function. Another function which reached the average of 4 points was the pavement. The lowest average score with 2,60 points belonged to the siege elements. The participants of the survey stated that dustbins and the pavement quality functions absolutely need to be available while the presence or absence of the siege elements was not important. Additionally it was observed that the functions of lightening, drainage, green plaints, shading elements, recreational elements, plastic elements and the barrier free design were important. The highest score with 398 points was obtained by the dustbin function while the lowest score with 234 points was obtained by the siege element function.

Table 1. Average points regarding generally square function

Function	N	Minimum	Maximum	Average
Pavement (general)	90	3,00	5,00	4,2444
Lightening (general)	90	3,00	5,00	3,9667
Drainage (general)	90	1,00	5,00	3,5000
Plant (general)	90	1,00	5,00	3,7111
Siege (general)	90	1,00	5,00	2,6000
Shadowing (general)	90	2,00	5,00	3,4111
Resting (general)	90	1,00	5,00	3,3000
Garbage (general)	90	3,00	5,00	4,4222
Plastic (general)	90	1,00	5,00	3,3444
Barrier free (general)	90	1,00	5,00	3,9556

3.2 The Evaluation of the Anıtpark's Existing Functions and Statistical Comparisons

Pavement

Two types of stones were used including grey granite and black basalt stone as pavement materials as in general in the city center of Düzce. Also white marble was added in order to create patterns on the floor, to strengthen the effects of the lines and to add colour. It is notable that all the used materials are smooth and fine. Images regarding the used flooring were given in Figure 4.

According to the survey results the following conclusions were reached after the comparison between the flooring quality of the Anıtpark and the flooring functions quality expected to be used on the squares in usual. The difference between the general flooring functions of a square and the flooring function of Anıtpark was significant and could be explained statistically. This difference was positive in general in terms of the flooring function of a square, in other words the flooring quality of the Anıtpark was found to be 0,8 point lower than it should be in a general square (Table 2).

Table 2. T Test results for pavement function.

		Mean	N		Mean Diff.	Sig.
coupling 1	pavement (general)	4,2444	90	pavement G - pavement A	,80000	,000
	pavement (area)	3,4444	90			

According to the survey result, flooring function is absolutely needed in a square and the flooring quality of the Anıtpark was found to be sufficient. As a result of the observation made in the field except of some moving stones, broken or poor quality pavement was not observed and also unpaved areas were not seen. The difference which was almost 1 point emerged due to use of the black coloured basalt stones.

Because particularly in winter this stone prone to icing while in the summer it absorbs the heat due to its dark colour. So the pedestrians may experience problems in both seasons.

Figure 4. The pavement materials of Anıtpark.

Lightening

The rarity of the lightening elements within the border of the Anıtpark area was observed during the inspection work. Road and junction lightening were used at the four corners of the Anıtpark and on the roads forming the border. Additionally, to the east at the area of the sitting and recreation function lightening elements were located in human scale. In Figure 5 images were given in relation with the high lightening of the Anıtpark.

According to the survey data when the lightening function quality of Anıtpark and the lightening function quality expected to be used was compared the obtained result was the following: the difference between the lightening function in a general square and the lightening function in Anıtpark was significant. According to this the lightening in Anıtpark was 0,4point lower than it was expected in a general square (Table 3).

Table 3. T Test results for lightening function.

		Mean	N		Mean Diff.	Sig.
coupling 1	lightening (general)	3,9667	90	light.G - light.A	,38889	,012
	lightening (area)	3,5778	90			

According to the survey result although lightening function is a condition which is expected to be in a general square, the lightening quality of the Anıtpark was sufficient. As the result of the observations, the lightening elements were found to be too rare in human scale. Despite this, the fact that the difference was very little showed that the demand for the lightening function was also not too high in general. According to the field observations of the previous years, ground lightning elements were place in Anıtpark but in a very short time they became unusable because of vandalism and with the new arrangements they were completely removed.

Figure 5. High lightening in Anıtpark and the Governer's Builgind in the background.

The Presence of Plants

In Anıtpark the plants are located almost like a siege around the square. The green areas constitute approximately 15 % of the total area. When examining the green areas which include the herbal materials it is worth noting that the green areas were used as surrounding elements in the east, west and north side of Anıtpark. Especially behind the Atatürk monument located in the north the high trees created a background. It was seen that the plants consisted of green and needled trees, bushes and grass. Images related to the plant materials were given in Figure 6.

According to the survey data when comparing the plant function quality which is expected to be used in a square in general with the plant function quality of Anıtpark, it was found out that the plant function quality in Anıtpark was 0,95 point lower (almost 1 point) than it is expected to be in a average park (Table 4.).

Table 4. T Test results for planting function.

		Mean	N		Mean Diff.	Sig.
coupling 1	planting (general)	3,7111	90	plantG - plantA	,94444	,000
	planting (area)	2,7667	90			

According to the survey result, the presence of the plant function was stated to be good in a square, the presence of plants in Anitpark was neither good nor bad. In other words the presence of plants in Anıtpark was less appreciated. As a result of the conducted field observations, it was seen that the herbal ingredients used within the Anıtpark were worn by the urban uses, the form of the plants was deteriorated and the grass was neglected. The 1 point difference between was thought to arise from this cause.

Figure 6. Usage of the plant material in Anıtpark.

Drainage

The drainage in Anıtpark is provided by surface and underground removal system. According to the observation made on rainy days there were areas where the rain water was not drained. Figure 7 showed the rack which was a part of the drainage system in Anıtpark.

The difference between the expected drainage function in an average square and in Anitpark was not found to be significant. The reason for it was that the scores were very near to each other so they could not create a significant difference. In other words the expectation of the drainage function in a general part was met in Anıtpark in the same rate.

Figure 7. Part of the drainage system in Anıtpark.

Siege Elements

In Anıtpark, concrete blocks in cube form placed next to the plant materials in the east, west and north and in the south sitting units placed next to each other are used. . The cubes of concrete blocks in the south of the area prevent both the entry of the vehicles to Anıtpark as well as it separates the sidewalk areas from the work area. Also in the west of the area the place surrounded by herbal materials was converted into a seating wall by increasing it with about 50 cm and covering it. Thus one use had multiple functions. Images in relation the siege elements were given in Figure8.

According to the survey data, when comparing the siege function which is expected to be used in a square in general with the siege function quality of Anıtpark, it was found out that the siege function quality in Anıtpark was 1 point higher than it is expected to be in an average square (Table 5.).In other words siege function of the Anıtpark is higher than it was normally expected.

Table 5. T Test results for siege function.

		Mean	N		Mean Diff.	Sig.
coupling 1	siege (general)	2,6000	90	siegeG - siegeA	-1,0222	,000
	siege (area)	3,6222	90			

According to the survey results, the availability of the siege function in a square did not really matter, so the siege function of the Anıtpark was beyond the expectation and was considered sufficient. As a result of the field observations, the cubic stone blocks in the south were used not only for separating the boundaries but also as a playing tool by the children. The kids were climbing on them and jump down and were running in zigzag between them. The cubic blocks were moved to different points for different activities from time to time. But due to their heavy weights, their transport is carried out by caterpillars and this situation gave physical damage both to the floors and to the cube blocks as well.

Figure 8. The examples of siege elements in Anıtpark.

Shadow Elements

In the Anıtpark artificial canopy is used as shadow material in the western boundary of the area. The trees within the green area in the western border also serve as shadow elements. The shadow elements are used side by side with the lightening, waste and recreation functions on a linear line. This can be considered as an example for using more functions together at the same venue. The shade elements used in Anıtpark were given in Figure 9.

According to the survey data when comparing the shadow function which is expected to be used in a square in general with the shadow function quality of Anıtpark, it was found out that the shade function quality in Anıtpark was 0,78 point lower than it is expected to be in an average square (Table 6). In other words, Anıtpark does not have a normally expected shadow function.

Table 6. T Test results for shadow function.

		Mean	N		Mean Diff.	Sig.
coupling 1	shadow (general)	3,4111	90	shadowG - shadowA	0,77778	,000
	shadow (area)	2,6333	90			

According to the survey result the availability of the shadow function in a square was considered to be good in general. The shadow function of the Anıtpark was neither sufficient nor insufficient. As a result of the observations the number of the shadow elements used in Anıtpark was less (only 8 pieces) they were placed on a single straight line. It is suggested that difference which was almost 1 point was caused by this.

Figure 9. The examples of shadow elements in Anıtpark.

Resting Elements

The applications which are located in Anıtpark for resting consists of backrest and backless seat units and sitting elements around the trees together with the shadow function in the eastern boundary of the area. Besides, the sitting wall surrounding the green area in the western and northern border and the cubic stone blocks overtake the sitting function. The stepped structure around the Atatürk statue placed in the northern central part of the area is mostly used by the people for sitting and resting. The resting elements in the Anıtpark are given in Figure 10.

Significant difference was not found between the resting function quality expected in general and the quality of the Anıtpark's resting function. The reason for this was that the scores were so close to each other that they could not create significant difference. In other words the expectations towards the resting functions in general were met by Anıtpark.

Figure 10. The examples of resting elements in Anıtpark.

Garbage Collection Elements

Mobil and fixed dustbins were placed at various points of the Anıtpark in order to fulfil the garbage collecting function. The dustbins which made of plastic and iron were used most intensively on the eastern border where the resting elements were placed. The garbage collecting elements were given in Figure11.

According to the survey data when comparing the garbage collecting function which is expected to be in a square in general with the garbage collecting function quality of Anıtpark, it was found out that the garbage collecting function quality in Anıtpark was 1,56 point lower than it is expected to be in an average square, this value was the highest difference obtained within the scope of this study (Table7.). In other words the garbage collecting function in Anıtpark was far below the normally expected value.

Table 7. T Test results for garbage collection function.

		Mean	N		Mean Diff.	Sig.
coupling 1	garbage (general)	4,4222	90	garbageG - garbageA	1,56667	,000
	garbage (area)	2,8556	90			

According to the survey results while in general the garbage colleting function is certainly needed in a square, the garbage collecting function was observed as neither sufficient nor insufficient in Anıtpark. As a result of the field observations the number of the dust collecting elements was few while the existing dust collecting elements leaked especially the liquid waste and caused bad and nasty view. It is suggested that the difference which was 1,5 point occurred due to this reason.

Figure 11. The examples of garbage collection elements in Anıtpark.

Plastic Elements

There is only an Atatürk Statue as plastic element in Anıtpark. All the official ceremonies held in Düzce are performed in front of this statue. The statue is situated in the north of the area and looks towards south. The statue which is rather large can be seen easily from any points. The base of the statue is one step higher than the floor and it is used by the people for sitting or resting. An image was given in relation with the plastic element in Figure 12.

According to the survey data when comparing the plastic element function which is expected to be in a square in general with the plastic element function quality of Anıtpark, it was found out that the plastic element function quality in Anıtpark was 0,82 point higher than it is expected to be in an average square (Table 8). In other words the plastic element function in Anıtpark was higher than expected.

Table 8. T Test results for plastic element function.

		Mean	N		Mean Diff.	Sig.
coupling 1	plastic (general)	3,3444	90	plasticG - plasticA	-,82222	,000
	plastic (area)	4,1667	90			

According to the survey results the availability of the plastic element faction did not matter in a square in general but the plastic element function in Anitpark was observed to be definitely sufficient. It is suggested that the difference which was almost 1 point was caused by the considerable size of the statute by the fact that in Düzce it is the only place with such a monument and a place and by the fact that the name of the area come from the word monument.

Figure 12. The plastic element in Anıtpark.

Barrier Free Design

In general Anıtpark has a flat terrain as it is normal in the city of Düzce. Within the area only the plastic element is palced on a base which is one step higher than the floor. This base does not affect the barrier-free access negatively because it is not the part of the circulation system. The connection of the area with the roads around was solved with ramps in this way it contributes to the barrier-free design.

According to the survey data when comparing the barrier free design function quality which is expected to be in a square in general with the barrier free design function quality of Anıtpark, it was found out that the barrier free design function quality in Anıtpark was 0,42 point higher than it is expected to be in an average square (Table 9). In other words the barrier-free design function in Anıtpark was higher than expected.

Table 9. T Test results for barrier free design function.

		Mean	N		Mean Diff.	Sig.
coupling 1	barrier free (general)	3,9556	90	barrierfG - barrierfA	-,42222	,000
	barrier free (area)	4,3778	90			

According to the survey result it can be stated that the availability of the barrier-free design function was good and that the barrier-free design function of Anıtpark was definitely sufficient. It is suggested that the fact that the area was flat and the connection with the road around was provided with ramps created the difference which was about 0,5 point. Although in Anıtpark problem was not detected regarding the barrier-free design but in a study conducted by Kaya and Müderrisoğlu (2015) it was stated that in general in Düzce the accessibility of the disabled individuals was restricted in many areas [18].

4 CONCLUSION

The town squares contain many functions. Therefore the squares are important public urban spaces due to different features such as bringing many people continuously together and providing communication between them. According to Kuta and Ermiş (2015) if a square has more than one function then it ensures an increase in the number of users and it can be addressed by different segments and age groups [19].

In this study, the Anıtpark Square which is the only area in Düzce with the nature of urban public square was evaluated in terms of the functional features it had. This evaluation was carried out by comparing the general availability of the same functions. Consequently the following result was obtained after examining the Anıtpark in terms of the functions it owned:

* The flooring, lightening, plant material, shadow and garbage collecting element functions were at a sufficient level but were found to be below the overall results.

* In contrast the siege, plastic element and barrier-free design functions were also at a sufficient level but they were found to be above the overall results.

* While the competence level of the drainage and resting element functions was found to be similar to the generally expected level. Therefore these differences could not be explained statistically.

The water element is one the usage that allows the users to perceive the square intensively from aesthetic and functional perspective [20]. The water function which is one of the main functions used in the design of many squares is not included in Anıtpark. 3 fountain pools are located around the Düzce Governor Office Building which is located just on the south of Anıtpark while another fountain pool is situated at the eastern side of the Avni Akyol Park. It is suggested that water element was not included within the Anıtpark due to the fact that these fountain pools are located within the close environment and that they fulfil the water element function.

In our city due to various reasons particularly due to the economic problems wrong material choices were carried out for structural applications, in many public spheres and also it is observed that problems were experienced both with the labour and infrastructure in the application [21]. Starting from this point of view, it is needed to rehabilitate the functions whose sufficiency levels were more below than an average square's sufficiency level.

The broken pavement stones should be renewed while the black basalt stones should be replaced with another material that does not absorbs the sun in the summer and does not keep ice easily in the winter. In certain times of the year heavy machinery is needed for the preparation of the events to be held. These machineries damage the flooring elements of the square. It should not be allowed or the infrastructure of the pavement should be rearranged in a way that allows the machineries to work there. Within the square, low and medium high lightening elements should be placed and the function of these elements should be increased by strengthening the sitting, resting and shadow elements within its near environment. In this way, the quantity of the shadow elements whose lack was perceived can be increased. All of the garbage colleting functions should be changed with leak-proof easily accessible garbage collecting elements produced from materials which could not be easily damaged. If it is possible this problem should be solved

with underground garbage collection areas which have been used frequently. The green fields should be strengthened by including species from the following groups grass and other groundcovers, seasonal plants evergreens and deciduous shrubs and trees. The maintenance of these green fields should be done regularly. The green spaces which have been created in this way will not be used only as a green area but will bring along the use of the functions such as sitting, resting shadow and siege at the same time.

Consequently the town squares are public spaces which live and let live, where the town and its inhabitants are in touch constantly, where many of the urban use functions can be observed and shared together and where the most basic urban outdoor space usages are experienced. The relationship between the quality of the functions hosted by the squares and the quality of urban life has a great importance in this respect. Establishing the functions in a quality manner and the provision of the continuity is the duty of all the professions which have the mission to plan and design the disciplines and then it is the duty of the entire city and its citizens.

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REFERENCES

[1] Erten Bilgiç D. The Altered Meaning of the Concept of the City Square and İzmit Üçyol Square Implementation. NWSA-Social Sciences. 9(1), 1-20.

[2] Özer M. N. and Ayten M. A. (2005). Urban Squares as a Public Nodes. Journal of Planning, 33, 96-103.

[3] Hasol D. (1998). Encyclopedic Dictionary of Architecture. YEM Publications, ISBN: 975-7438-30-8. 500 pages, İstanbul

[4] Moughtin C. (2003). Urban Design: Street and Square. Architectural Press, ISBN: 0 7506 57170.

[5] Demirel T. (2008). Metodological Aproach To Land Selection For Public Square: Adana City, Çukurova University Institue of Natural and Applied Science, Unpublished MSc Thesis, Adana.

[6] Önder S. and Aklanoğlu F. (2002). Investigating Squares in Urban Open Spaces, Selçuk University Journal of Faculty of Agriculture, 16(29), 96-106.

[7] Şavklı F. and Yılmaz T. (2013). The Use of Urban Squares in a Case of Antalya Cumhuriyet Square. Turkish Journal of Forestry, 14: 138-142.

[8] Lynch, K. (2010). The Image of the City. Publications of İş Bank.

[9] Semerci F. (2008). Urban Design Requirements in terms of Beyazıt Square Case, Yıldız Technical University, Graduate School of Natural and Applied Science, Unpublished MSc Thesis, İstanbul.

[10] Ölmez Kalender S. and Demiroğlu D. (2011). Examination of the Sivas City Square in the Historical Process. İnönü University Journal of Art and Design, 1(3), 355-365.

[11] Çınar Altınçekiç H. S. and Kart N. (2000). The Squares in Urban Design Process. Journal of the Faculty of Forestry Istanbul University, 50(2), 111-120.

[12] Carmona M. and Tiesdell S. (2007). Urban Design Reader,Architectural Press, Elsevier.

[13] Carmona M., Health T., Oc T. and Tiesdell S. (2006). Public Places Urban Spaces The Dimensions of Urban Design, Architectural Press, Elsevier.

[14] Çakçı I. (2007). A Research Of Methodology For Visual Landscape Assessment In Landscape Planning. Ankara University Graduate School of Natural and Applied Science, Unpublished PhD Thesis, Ankara.

[15] Nasar J. L. (1992). Visual Preferences in Urban Street Scenes: A Cross Cultural Comparison Between Japan and The United States. Environmental Aethetics: Theory, Research and Applications, Cambridge University Press, New York.

[16] Ural A. and Kılıç İ. (2005). Research Process and Data Analysis with SPSS. Detail Publications, Ankara.

[17] Altunışık R. Coşkun R. Bayraktaroğlu S. and Yıldırım E. (2010). SPSS Applied Research Methods in Social Science. Sakarya Publications, Sakarya.

[18] Kaya S. and Müderrisoğlu H. (2015). Recreational Activity Constraints of Disabled in Urban Spaces: A Case od Düzce Downtown. III. Congress of Recreation Research, 339-349.

[19] Kuter N. and Ermiş İ. (2015). Urban Squares: Bursa Atatürk Square Example. I. National Ankara University Congress of Landscape Architecture: Local Landscapes and Protection Issues. October 15-17, 330-340.

[20] Aksoy Y. and Yılmaz E. (2015). Sultanahmet Square and Water as a Design Element. Journal of İstanbul Aydın University (İAÜD), 5(17), 25-38.

[21] Altuğ İ. and Gülgün B. (2005). The Inspection of Structural Applications – Drainage, Irrigation, Illumination and Surface Covering Works – Concerning Urban Open Spaces on the Sample of Konak Square and Its Environs. The Journal of Ege UniversityFaculty of Agriculture, 42(3), 183-194.