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## **The Views of School Administrators toward Issues of School Siting: A Geographical Analysis**

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### **Abstract**

The purpose of this study is to examine the views of school administrators with respect to school siting, conducted by themselves, by means of geographical perspectives in İstanbul province. This qualitative research was designed as a phenomenological study. Data were collected via individual semi-structured interview form that was developed by the researchers based on the literature review, expert opinions, and pilot study. Content analysis method was applied while assessing the interview records. Depending on the findings obtained through an open-ended questionnaire, the following categories are formed; a) Positive Themes: (1) Safe environment, (2) Easy transportation and large school playground and (3) Socially-favorable environment, b) Negative Themes: (1) High risk of natural disaster, (2) Intensive urbanization and insufficient schoolyard, (3) Wrong location selection, (4) Unsuitable social environment and (5) Transportation problems. Therefore, findings from this research are expected to encourage the Turkish government, especially the Ministry of National Education, to develop and create a guideline for the safe school environment in Turkey.

**Keywords:** Geographical analysis, School administrators, School location, School environment.

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## Okul yöneticilerinin görev yaptıkları okulların kuruluş yerine ilişkin görüşleri: Coğrafi bir analiz

### Öz

Bu araştırmanın amacı İstanbul ilinde görev yapan okul yöneticilerinin görev yaptıkları okulların kuruluş yerine ilişkin görüşlerini coğrafi bir bakış açısıyla incelemektir. Çalışmada nitel araştırma yöntemlerinden olgu-bilim deseni uygulanmıştır. Araştırmanın verileri, literatür taraması, uzman görüşlerinin alınması ve pilot çalışması araştırmacılar tarafından yapılan 'yarı yapılandırılmış bireysel görüşme formu' ile toplanmıştır. Görüşme kayıtlarının değerlendirilmesinde içerik analizi kullanılmıştır. Açık uçlu sorularla elde edilen bulgulara bağlı olarak, aşağıdaki kategoriler oluşturulmuştur: a) Olumlu Temalar: (1) Güvenli ortam, (2) Kolay ulaşım ve geniş okul bahçesi (3) Sosyal açıdan uygun bir ortam; b) Olumsuz Temalar: (1) Doğal afetlere açık, (2) Yoğun kentleşme ve yetersiz okul bahçesi, (3) Yanlış yer seçimi, (4) Uygun olmayan sosyal çevre, (5) Ulaşım problemleri. Araştırmada elde edilen bulguların, Türkiye Cumhuriyeti hükümetini güvenli okul ortamı oluşturulması konusunda teşvik etmesi ve Türkiye Cumhuriyeti Millî Eğitim Bakanlığı'nın güvenli okul ortamına yönelik bir kılavuz geliştirmelerine cesaret vermesi beklenmektedir.

**Anahtar Kelimeler:** Coğrafi Analiz, Okul Yöneticileri, Okul Kuruluş Yeri, Okul çevresi.

### INTRODUCTION

School locations in Turkey have various risks and challenges such as security, environment, geological structure of the ground, topographical conditions, the size and shape of the school land, cost, accessibility, benefit from public services, social integration. Because when there is a need for a school, comprehensive analyzes are not made in determining the position of this school. Spatial characteristics, such as the location of schools, their relation to the environment and the physical structure of school buildings, directly influence urban ecology and education. In addition, the location of schools is important in terms of community education, environment and body health, traffic intensity and neighborhood liveliness (U.S. EPA, 2003). Old school locations are being discussed because of the rapid expansion of urban space, new developments in education and new demands of the community. Moreover, due to the rapidly increasing population, schools are inadequate in terms of quantity and thus new schools are needed (Campbell, Corbally & Nystrand, 1983; Onsoy, 1991; Calik, 2003). Apart from these, the concept of "school" is also questioned due to the rapid developments in the technological area (Ozdemir & Akkaya, 2013).

*Who should be involved in determining a school location?*

It is not easy to build a new school or decide to renovate a school. In the process, education planners, city planners, transportation engineers, local governments and even non-governmental organizations should cooperate (TGM, 2005). School planners, school transportation officers, accrediting bodies, city planners, transportation planners, architects, historic conservation planners, recreation planners, youth organizations, families, students, public health experts, neighborhood associations, public relations experts, business people and non-governmental organizations can be included in an advisory board to be established for the relocation of schools or for the relocation of some schools depending on the urban transformation. The planning should begin with determining of the school location. GIS

applications can be used as a useful tool for identifying school locations and selecting suitable locations for new schools (Stewart, 2016).

*What criteria should be considered in determining the school location?*

Factors such as land prices, zoning status, parcel size, topography and slope conditions, position relative to daylight and wind, traffic, population density, security, distance from school to surrounding areas and pedestrian accessibility are influential in selecting school sites (Buerger, 2005; McDonald, 2010; CDE, 1998). Possible changes in zoning status to be made by public administrations are the most important limitation in determining the appropriate location. A land bank for schools should be established to solve this problem (McDonald, 2010). It is also important that the school settlement is close to libraries, parks, museums, and other social services, public and municipal services and infrastructure. On the contrary, the school should not be close to major roads, railways, airports, high voltage lines, high pressure lines, waste areas, high decibel noise areas, open mining operations, fault lines, flood areas and to areas where drug addiction, alcohol dependence, and crime rates are high (Bukhari, Rodzi & Noordin, 2010; Duncombe & Yinger, 2008).

*What should be the size and shape of a school campus?*

Within the scope of spatial characteristics related to schools, the architectural features of the school campus should also be considered multidimensionally (Cobanoglu & Cobanoglu, 2001). High-performance green school technologies are positively affecting school staff and students' health and work performance because of the air quality in the building, lower chemical emissions, better energy efficiency, better control of humidity and greater daylight savings. The debate on how much would be the size of the school campus is an important topic. First of all, the size of the school campus varies according to the education level (Edwards, 2006; Gordon, 2010). It is more preferable to make smaller schools in areas where the population is rather large, rather than large schools, in areas where the population is relatively scarce. In this context, neighborhood schools stand out. Small neighborhood schools have advantages such as more convenient learning climates and higher student success, advanced neighborhood ties and belongingness and lower transport costs, as well as walking and bicycle access (U.S. EPA, 2003; Clinchy, 2000). The shape of the school campus is also important within the spatial characteristics of schools. However, school buildings should be designed as symbolic structures that are in harmony with the surrounding environment and represent the silhouette of the neighborhood. Considering that especially primary and secondary school children spend a significant part of their lives in the school environment, school gardens play an important role in raising environmental and nature awareness in addition to games and sports (Sisman & Gulturk, 2011).

*How does rapid urbanization affect school locations?*

The increase in vertical and horizontal structures as a result of rapid population growth made schools in the neighborhoods of the urban center inadequate. As a result, either the student capacity of the classrooms is increasing or the problem is solved by making additional buildings in the school garden. Thus, schools have become buildings lacking in social, sporting and recreational facilities and only eliminating classroom problems. The fact that the price of land around the district schools in the city center is too high makes it difficult for the school to expand towards its surroundings. As a result, the tendency to build large schools in large areas outside the city is emerging as a dominant idea (U.S. EPA, 2003; Raywid & Schmerler, 2003). Thus, schools with more social, sporting and recreational facilities

can be constructed. However, the increase in mega schools in the form of campus outside the city has reduced the walking and cycling by students (Ewing, Schroeder & Greene, 2004). In addition, new schools built outside the city can lead to the loss of vital agricultural land and other natural resources (Managing Maryland's Growth, 2008).

#### *What are the characteristics of a community-centered school?*

Walking or cycling can affect traffic intensity, air pollution associated with auto travel, energy efficiency, transportation costs, health and obesity of children (Sirard & Slater, 2008). It has also been observed that students who walk or ride the school are healthier as well as more successful. In the United States, about 90% of children who lived in an area about 1 mile away in 1969 were walking or cycling to the school, down to 10% in the 2000s. Also between the ages of 6-11, obesity has increased threefold in the last 30 years (McDonald, 2007). For all these reasons, the community-based schools in the neighborhood have gained importance again. Community-based schools positively affect safety and security, the relationship between school and society, the formation of local identity, the desire to learn, the educational contribution of families, public health and energy efficiency (Elias & Katoshevski-Cavari, 2011).

Due to the intense urbanization in the central areas of the city, the neighborhoods lack social, sporting, recreation and many opportunities. In this context, urban transformation emerges as a necessity. In addition, urban transformation should be carried out in such a way as to enable such community-centered schools. The fact that schools are located in the neighborhood is not enough for children to walk or bike to school. Especially, it can be evaluated in this context that the pedestrian roads are sufficient, the roads are safe, afforested and, the pedestrian roads are not as rough as possible. It prevents students from walking or cycling on the roads; safety concerns, weather conditions and a surplus of school supplies (Stewart, 2016). In particular, families do not trust their children to walk or ride the roads (Pedestrian and Bicycle Information Center 2015). It is necessary to increase safety at school exits and to create safe routes to the school and the neighborhood. Infrastructure investments that will encourage walking on school roads are also very important. In order to secure the schools, sometimes isolated buildings are emerging from society. For this reason, barriers around the school should be removed for school and community integration. However, in the case of a security issue, separate gates can be created for people to access the school (Ahlport, Linnan, Vaughn, Evenson & Ward, 2008). Van Vliet (1983) suggests that the greatest obstacle for parents to walk their children to school is the risk of kidnapping their children. When establishing a new school location, it is necessary to consider a multidimensional construction, such as well-organized street connections, roads for vehicles and pedestrians, kiss and ride zone for public transport, school services and families, parking spaces for cars and bicycles, aside from school construction. It is also important to avoid direct access to high-speed roads, to check the school environment with speed cameras and to remove risky traffic conditions. One of the problems that children face during school is traffic accidents (Nazik, 2003; Kingham, Sabel & Bartie, 2011). McMillan (2005) pointed out that some schools close to large streets are among the most dangerous places for students to walk on the road. Especially during the entrance and exit hours to schools, the fact that people drive cars with the hassle of reaching work or home on time raises the risk of accidents. The highest number of deaths from traffic accidents occurs between 14-18 hours when the schools are scattered (Tombaklar, 2017).

Not only the current traffic intensity but also the estimated traffic situation in the future should be considered. It is important for security that there are continuous walkways from the school to the neighborhood (. The street and sidewalk rate affects school children walking or cycling to the school together with friends or family (D'Haese, Meester, Bourdeaudhuij, Deforche & Cardon, 2011). Walking schools in groups is widely encouraged. This is closely related to whether or not there is a walking culture (Sirard & Megan, 2008).

*Why should be asked about the location of schools in Turkey?*

Approximately 23.6% of Turkey's population is 0-14 age group. This age group also includes primary, secondary and high school children. At primary school level; net schooling ratio is 94.87%, number of schools is 26522, number of teachers is 302961, number of students is 5360703, number of classrooms is 246090, number of division is 253714, number of students per school is 202, number of students per division is 21, number of students per teacher is 18. At secondary school level; net schooling ratio is 94.39%, number of schools is 17343, number of teachers is 322680, number of students is 5211506, number of classrooms is 164943, number of division is 205981, number of students per school is 281, number of students per division is 24, number of students per teacher is 15. At the high school level; net schooling ratio is 79.79%, number of schools is 10550, number of teachers is 335690, number of students is 5807643, number of classrooms is 182530, number of division is 214871, number of students per school is 405, number of students per division is 20, number of students per teacher is 13 (TUIK, 2017).

Studies on school locations in Turkey are inadequate. A research conducted in schools in Ankara found that about 43% of school buildings were on the highway, schools were noisy, and the risk of accidents was high, and about 13% of the gardens were not surrounded (Polat, 1998). Istanbul is one of the largest metropolises in the World. The rapid urbanization process is still continuing. Urban transformation, which has been on the agenda since August 17, 1999 Marmara earthquake and still maintains its update, is understood as a transformation in the residential areas. However, it is a necessity to examine the old school locations together with the urban transformation and analyze the possible changes. In this context, the aim of the research is to determine the views of school administrators in various schools in Istanbul toward issues of school siting. School administrators are the ones who should get their opinions about the locations of schools. The objectives of this study are: *(1) To contribute to filling the gap in the literature about the location of schools in Turkey, (2) Promote periodic analysis of school locations within the framework of the views of all stakeholders, (3) To encourage the Ministry of National Education to initiate a study on a safe, healthy and successful school environment.*

## **METHODOLOGY**

### **Research Model**

This research is designed with a phenomenological approach to qualitative research methods. In case of being informed about the existence but not having in-depth knowledge, it is necessary to examine in detail the experiences of different persons in order to be able to understand the fact that the case is scientific, which enables to reach detailed descriptions through determined events (Patton, 2002). However, in phenomenological research, data sources need to be selected from the individuals or groups who are experiencing the phenomenon that the research focuses on and can display or reflect

on this phenomenon. The case studied in this study is the opinion of school administrators working in various schools in Istanbul on the place of establishment of schools. The selected individuals consist of the school principal and assistant principals currently in charge of the schools in Istanbul, who directly experience this course of experience. In-depth and detailed information was collected from 102 school administrators using semi-structured interview form from qualitative data collection techniques. In the selection of the interviewed school administrators, easily accessible case sampling was used from the sampling methods. At the same time, it was considered to be willing to participate and accept in the interview (Karakoc Ozturk, 2008). In studies where an easily accessible case sample is used, the investigator selects a condition that is easy to access. The easily accessible case sampling method provides speed and practicality for research.

### **Study Group**

The fact that the subject discussed in the study had very different dimensions required a large sample size. In this context, 102 volunteer school administrators who are doing a master's degree in Educational Administration at a university in Istanbul participated in the research. In order to eliminate the potential limitations of the sample size, two researchers worked together and the interviews were extended over two educational periods and used for a relatively long time. A total of 102 school administrators, 13 (12.7%) female and 89 (87.3%) male, participated in the research. Among the participants 37 (36.3%) are directors and 65 (63.7%) are vice-principals. It is seen from the participants that 6 people (5.9%) have 1 to 5 years, 26 people (25.5%) have 6 to 10 years, 37 people (36.3%) have 11 to 15 years, 15 people (14.7%) have 16 to 20 years and 18 people (17.6%) have 21 or more years of teaching profession experience. It is seen from the participants that 51 people (50%) have 1-5 years, 29 people (28.4%) have 6-10 years, 12 people (11.8%) have 11-15 years, 5 people (4.9%) have 16-20 years, 5 people (4.9%) have 21 or more years of management experience. School administrators participating in the research have 69 people working in Primary and Secondary Schools, 9 in Industrial Vocational High School, 8 in Anatolian High School, 8 in General High School, 4 in Anatolian Imam Hatip High School, 2 in Girls Technical and Vocational High School and 2 in Kindergarten.

### **Data Analysis**

The data obtained as a result of interviews with school administrators were analyzed using content analysis method. Content analysis requires an in-depth analysis of aggregated data and allows for the uncovering of previously unfamiliar themes and dimensions (Yildirim & Simsek, 2013). Thanks to the high number of samples, the narrow scope of the sample, which is one of the most important limitations of the qualitative research model, has been overcome and made a significant contribution to the 'generalization'. In order to demonstrate the objectivity of the researchers, direct quotations about the opinions of the participants were frequently included. The basic questions on the interview form are: (1) What are the main advantages of schools due to their location? (2) What are the main problems arising from the location of schools? (3) What is the place of schools in the city plan? (4) What are the reasons for the stakeholders' complaints about their school positions? (5) What are the solutions for the problems arising from the location of the schools? As a result of the answers given to these basic questions, 120 pages of raw data were obtained. As a result of the content analysis, the expert opinion (two faculty members from the Department of Education Management) was used to confirm whether the responses of the participants were represented by the main and sub-themes

identified by the researchers. The compatibility of the main and sub-themes obtained with the responses of the participants was also confirmed by the experts.

## **FINDINGS**

In response to the question "What are your thoughts about the location of your school" directed to the school administrators, the responses of the participants were evaluated by text content analysis and two main themes were reached. These are positive themes and negative themes. Sub-themes are then set out in order to evaluate these basic themes in more detail. These basic themes and sub-themes are given below. In addition, the views of some school administrators on each sub-theme are given as if no changes were made. Symbols were used for each participant. For example, R1- represents Respondent 1.

### **Positive Themes**

51 of the participants (% 50) have made positive statements about the locations of the schools they work in Istanbul. The opinions of the school administrators in this theme are evaluated in 3 sub-themes.

#### **1. Safe environment**

Of the school administrators who participated in the survey, 5 stated that the place of establishment of the schools had positive results.

*R1- The area where the school is located is the right choice because of its location in TOKI<sup>3</sup> housing.*

*R7- Transportation is easy and safe because it is in the site.*

*R74- Since our school is established within the industrial site, it has various advantages as an industrial vocational high school. However, if it is a closed area, it causes various negativities.*

*R85- The future of our school is brilliant because it is located in a region covered by urban transformation.*

*R95- It was built in Tozkoparan neighborhood, in public housing, among the greenery, close to Davutpaşa and Merter metro stations. It's a positive location.*

#### **2. Easy transportation and large school playground (37 participants)**

*R3- Our school, which is in a very central location, is easily accessible by all means of transportation.*

*R6- Our school is at the intersection of four neighborhoods. It is in a school district. This is an advantage in terms of accessibility.*

*R11- Since the school is located in a convenient place for the transportation of the neighborhood, parents and students can easily go there.*

*R18- Our school is in a position with easy accessibility. It is located in the most modern district of Istanbul.*

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<sup>3</sup> Housing development administration of Turkey

R35- Our school is located close to industrial establishments and settlements and has an easy accessibility.

R41- It is located close to the sea and the city center in a place suitable for its purpose as an institution.

R50- The place where the school is located is one of the nicest view and the calmest places of the region. For this reason, students and staff are educated in a peaceful environment. It is an advantage to have the school located on the coast.

R51- Our school was established in the best location in the middle of the neighborhood. Students can easily come and go to the school.

R64- It's a very central school, built in the Dertyol square in Esenler.

R66- The location of the school is in a good position in terms of transportation possibilities.

R76- Although our school is located in Fatih district, it was established in a wide schoolyard. This is an advantage. However, it is disadvantageous to be in narrow streets. But all the schools in Fatih have the same problem.

R80- In the most central place of Esenler, it is easily accessible from everywhere in terms of transportation possibilities. It is a school where student parents with relatively high-income levels are present.

R92- Our school is on the street. It is an advantage that transportation can be provided easily and students do not have problems in traveling.

R96- Since our school is located in the Merter textile district, our students are able to practice very easily.

R100- It is a very convenient place for transportation and settlement. When the first building was built, it was used for a single school building of 11000 square meters. After that, two buildings were built and the living space of the students has been narrowed.

### **3. Socially-favorable environment (9 participants)**

R20- The school is easily accessible in terms of school enrollment areas. The environment of the school has developed in socially.

R27- The environment in which the school is located is on the Istanbul average in socio-cultural terms, developed in economically.

R59- Our school is in Seyitnizam district in Zeytinburnu, generally located in the green zones and in a quiet location. The disadvantage of school is that it is in cemeteries.

R63- Our school is in a central location and its advantages are more. It is located in a region with low socioeconomic level and no squatter houses.

R70- The school is centrally located and close to major public institutions. It is a place where the working mother rate is high. In addition to, the school is centrally located close to the children's homes. Our school is located in a clean neighborhood with its surroundings and air.

### **Negative Themes**



In this basic theme created by the views of the school administrators, 51 of the participants used negative expressions related to the place of establishment of the schools they work in Istanbul. The opinions of the school administrators in this theme are evaluated in 5 sub-themes.

### **1. High risk of natural disaster (2 participants)**

*R4- Our school is located on the edge of the creek. For this reason, there are negative events when it rains. At the same time, there are dangerous situations in the entrance and exit of the school because all four sides of the school are main streets.*

*R49- Our school is built on a creek bed. The school building is under threat because the ground is muddy and constantly watered. Although our school is located next to a site where people with high income live, the students on this site are not our school students.*

### **2. Intensive urbanization and insufficient schoolyard (18 participants)**

*R5- Our school, established in an old settlement, Gunesli district, is unable to meet our expansion demands. Because there is no free space.*

*R9- The location of the school is not suitable. It is a disadvantage for the school that it is near the main road, it is very close to the houses and the garden is narrow.*

*R10- The school was established in one of the very old settlements of Istanbul. As it is an old residential area, the streets are very narrow and the houses are very close together. The classrooms and the windows of the houses are very close together.*

*R15- Our school is surrounded by houses in the neighborhood. Due to elevation difference, the school building is lower than the houses.*

*R28- My school is located in the center of Gurpinar which is connected to Beylikduzu from the new districts. The school was founded in 1927. While the establishment of the school was initially suitable, the place where the school was located became problematic because of the new developments that later took place in the town. Problems such as the large number of shopping spots around the school and the school being located between two streets are serious problems for students, parents and school administrators. However, the use of several old abandoned homes right next to the school wall and the gardens of these houses for various misconducts, such as smoking by young people, is a spatial problem.*

*R32- Our school is located in a very busy residential area.*

*R52- Our school is like an island because of the main roads that completely surround it. The school is located in an undeveloped neighborhood. The fact that it is close to the ruins of the walls of the city of Istanbul and the cemeteries affects negatively. In addition, the schoolyard is small and sports areas are limited. But I think that the transportation possibilities are good.*

*R94- My school is close to the district's National Education Directorate. This is an advantage. Since it is surrounded by roads, we are suffering from heavy traffic. But it was in a good position when it was founded in 1966.*

### **3. Wrong location selection (14 participants)**

R2- *It is a school built in an empty space for the purpose of increasing the number of classrooms without any feasibility study.*

R31- *The place where the school is located is an empty area where the settlement is small. New buildings are rising around.*

R47- *There are security problems because it is on the main street.*

R53- *Our school was built on a large estate on the edge of a neighborhood in 1996. It is located in a social environment with negativity. The level of education of the parents is low. They do not support students' education. They expect everything from the state.*

R54- *Industrial vocational schools should be in the industrial site. The fact that our school is far away from the industry negatively affects the ability of our students to do internships in the industry.*

R55- *The school is a historic building on the golden horn side of the mosque inside the Fatih Complex. The existing structure, garden width and solar reception are not suitable for education-training. Since it is considered as a madrasah (Tetimme Medereseleri) in its establishment, it does not respond to current needs.*

R83- *The school building was not built in a planned and functional manner. The school building does not respond to needs. It was built for a number of political reasons.*

R93- *Because our school is not a garden, there is no space for students to waste their energy.*

#### **4. Unsuitable social environment (19 participants)**

R8- *My school is located in one of the oldest settlements in Istanbul. It was built in 1939. It used to be among Istanbul's favorite schools. Due to migration from rural areas, the elite population living around the school has abandoned this neighborhood and the socio-economic structure of the school environment has changed.*

R12- *Our school is a school with a large number of students in an edge neighborhood created by people who migrate from various parts of Anatolia.*

R19- *Because Esenyurt is a district that receives immigration, there is no continuity in education or other matters. Therefore, success cannot be achieved to the desired level.*

R22- *The area where our school is located is a residential area with a low level of socio-economic development and a social structure which is devoid of any kind of social activities. The people are neither townsmen nor countrymen, piggy in the middle.*

R25- *A school in Esenyurt's Kirac district. Kirac is a place where immigration from almost every part of Turkey, especially from Eastern Anatolia. An undeveloped place economically and socially.*

R34- *The place I work hasn't available location for a school. The school is out of the neighborhood. It is not a safe place because of the large number of industrial establishments around the school.*

R44- *The school does not meet the need. Bagcilar is in a place that receives constant migration and very cosmopolitan. The economic and educational levels of the families are much diversified. There are so many good and poor. But the poor is more.*

*R60- Although our school is one of the most central districts of Istanbul, its socio-economic structure is quite weak. There are old immigrants who migrated from Anatolia to Istanbul in the houses in this area or people living in the rent for 250-300 TL.*

*R68- The school is in a central location. School is negatively affected because the social environment in the city center is bad.*

*R78- Our school was opened in 1926. It was a very good quality school until the 1980s, with a qualified parent and student profile, but later socially-economically depressed.*

*R97- Our school is one of the most migrated areas of Zeytinburnu district. The majority of the population consists of citizens from the Black Sea and Eastern Region. In addition, there are a considerable amount of immigrants from Afghanistan, East Turkestan and Turkic republics. The income level of the people living in the neighborhood is weak and there are quite a few broken families.*

*R102- The school was established in a former rural settlement. However, due to rapid urbanization over time, the school was filled with industrial facilities around and school environment has become a suburb.*

#### **5. Transportation problems (3 participants)**

*R13- The location of the school is not suitable for transportation conditions and educational activities.*

*R46- Transportation and socio economically problematic region.*

*R99- It is located in Fatih, which can be considered as the central district of Istanbul. However, Edirnekapi is a problematic place in terms of transportation because it is inside the city walls.*

### **DISCUSSION**

When school administrators analyze the positive attitudes of the schools, the first of the three sub-themes is related to schools located in a housing estate in closed spaces. The main reason for the positive attitude of participants to these schools is security. The security issues of school environments in the big cities are one of the important discussions about the school location. In addition, the fact that the schools in the planned residential areas where housing estate is located in Istanbul are generally more developed in terms of social, sportive, recreational and cultural spaces are other reasons of this positive approach. School administrators in industry vocational schools are also considering the fact that their schools are located in industrial sites as the most accurate decision in determining school location. The second sub-theme of the positive approach to school location is the development of transportation facilities. As a matter of fact, transportation problems are the most important problems of urban space in Istanbul. It is one of the most important components of the school location in terms of its ease of access to the school district through various means of transportation such as buses, trams and metros. It is an important advantage for some community-centered schools in the district center to have access by students, parents and teachers by walking. Moreover, bicycle transportation, one of the most important means of transportation to schools in developed countries, seems to be almost absent in Istanbul. This is mainly due to the inadequate transportation infrastructure available for cycling. Walking or cycling students to schools is not only healthier but also more successful.

The fact that the school is located in a socio-economically developed environment also constitutes the third sub-theme of the positive approach to school location. High socio-economic levels of families are one of the most fundamental factors affecting student achievement (Garnham, 2015).

The other reason for the positive approach to the school location is that the school has social, sporting and recreational facilities, in particular, the width of the school garden. In addition, factors such as the cleanliness of environment and air, the quietness of the surroundings, the presence of the place on the sea shore, or the beautiful view of the place are among the reasons for the school administrators' positive attitudes towards the school location. Janssen, Vliet, Aarts, Harssema & Brunekreef (2001) stated that students who are attending schools built on the highway edges are exposed to air pollution resulting from heavy traffic. 50% of the school administrators have negative opinions about the location of the schools. This situation shows that most of the schools in Istanbul are experiencing locational problems. School administrators' negative views were evaluated in 5 sub-themes.

One of the most important reasons for negative thinking about school location is shown as the low socio-economic level of families. In other words, it is seen as the most important problem that these schools are located in a neighborhood where low socioeconomic level people live. The fact that the families are not developed in the social and economic direction influences the low level of education. Therefore, this situation negatively affected the success of the students. It is also important to develop the education of families as well as students in neighborhoods where socioeconomic levels are low (Garnham, 2015). Especially the problems mentioned in the districts where there is a large number of immigrants who continue to receive immigration are mentioned more by school administrators. The integration problems of immigrants in these regions negatively affect students, families and, ultimately, educational institutions.

The second most important reason for the school administrators to put negative opinions about the school location is that the school has an inadequate garden within the neighborhood, between the buildings. The fact that these schools are totally devoid of social, cultural, sporting and recreational facilities is the main reason for this thought. These schools in dense urban areas can be regarded as schools where the classroom problem is solved only within the spatial problems of education. This finding is similar to the findings obtained by Sisman and Gulturk (2011) in their research on landscaping and garden use by primary schools in Tekirdag. In their research, they found that 55% of the schools' garden areas were below minimum values, not suitable for planting and insufficient in terms of reinforcement elements. As a matter of fact, Olson and Kellum (2003) agreed that sustainable school buildings should offer better learning environments in their work on the impact of sustainable school buildings in educational success in schools.

Participants who expressed negative opinions about transportation complained about heavy traffic in the immediate vicinity of the school. Especially schools located on the main road are attracting attention as problem schools in terms of security. The current locations of these schools, which are not on the main road when they are built, have become a major source of trouble as they have remained in the midst of intense traffic as a result of rapid urbanization over time. Other problems related to transportation are problems related to the difficulty of access to the school due to the inadequacy of transportation alternatives. Some managers in industrial vocational schools have found that schools are located far away from industrial sites as the school's most important location problem.

In addition, there is a negative perception of the location due to security problems in the surroundings of schools located near a neglected historical site such as the city walls of Istanbul, a cemetery or near an industrial plant, and away from dwellings. Another reason for the negative attitudes of the school location is that the schools established on the edge of a stream are frequently adversely affected by floods. Bukhari et al. (2010) have suggested that remote areas of flood and flood areas should be preferred when selecting school locations for school buildings and students' safety and a healthy education environment.

### **CONCLUSION AND RECOMMENDATION**

Old and new school locations in Istanbul need to be re-evaluated according to various criteria and with the views of all stakeholders. A comprehensive digital data source should be established in the light of assessments regarding school locations. This digital data source should be integrated with other smart city applications and digital data infrastructure.

In the USA, old schools in various states were built close to parks, recreation areas and other community facilities. Schools are also designed to be used in many other social and sporting events. In addition, these schools were built as icon buildings in terms of architecture (Stewarth, 2016). Sharing of the use of common locations and school facilities with various institutions is also important. Schools should be multifunctional and designed as a community center (Managing Maryland's Growth, 2008). Apart from the normal educational activities of the school facilities, there is a tendency towards multifunctional use such as adult education, public meetings, recreation, voting in elections and various courses. There are also a variety of applications for the use of schools in the evenings and weekends.

Some schools are built as part of larger-scale community services facilities such as recreation and park areas, health and social service centers, libraries and cultural centers. The common location is that a primary school is located together with a secondary school, a high school, a university, a library, a health institution, a sports facility, and a nursing home. The common location provides significant savings in terms of building plot, planning, construction and restoration, management and overhaul costs. The common use of athletics and parking spaces with schools is important for the formation of qualified playgrounds and school gardens. The common location increases coordination between school administrators and local authorities. Schools may be a socio-cultural and socio-economic center for the environment. This can affect home purchasing decisions and traffic practices.

School site planners, local and regional planners should work together on new school plans. Local and regional planners can work together to build community-centered schools, taking into account the needs of the community on the location and size of the new schools.

Changes in the physical environment, such as making new sidewalks or extending existing sidewalks, making bicycle paths and reducing traffic intensity, are attractive. Because they improve effective travel infrastructure (Ahlport et al., 2008). Elias and Katoshevski-Cavari (2011) argue that the development of road safety will increase the number of walkers.

Studies may be undertaken for authorities and fund providers who have initiative in the development of access to schools for children at risk. Further research may be planned that takes into account such factors as travel behavior and cultural differences, socio-economic status, car, and driver status. It is

recommended to create a continuously updated digital data source related to school locations, to associate it with other spatial data infrastructure and to make use of GIS applications in this context.

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