# Evaluation of school administrators' views on playgrounds and sports areas in the schools they work

# Evaluación de la opinión de los administradores escolares sobre los patios de recreo y las áreas deportivas en las escuelas en las que trabajan

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#### Abstract

One of the best learning tools for children is games. Playgrounds and playgrounds are areas where children complete their physical, mental and social development. It is important for the health, welfare and order of the society that children complete their development in a healthy way. This makes the design of children's playgrounds much more important. Play is the basic building block that supports the development of children, who are the building blocks of society, from birth to adolescence in many ways. The aim of this study is to evaluate the opinions of school administrators about the playgrounds and sports fields in their schools. In the study group of the research, face-to-face interview technique was used with 15 school administrators working in Gaziantep Provincial Directorate of National Education and on a voluntary basis. In the research, using the interview method, which is one of the qualitative research methods, the data obtained were analyzed by the content analysis method. As a result of the research, school administrators stated that the playgrounds and sports areas of the schools they work in are insufficient. At the same time, they stated that there should be sports halls in schools and that the adequacy of the areas should be at a high level in terms of children's development. School administrators participating in the research stated that playgrounds and sports fields contribute to the educational development of students. It has been seen that there should be educational areas, playgrounds and sports areas should be wide and safe. In addition, regarding the playground and sports fields of the research group; It has been concluded that game and sports halls should be built, game and sports areas should be more standard, multi-purpose, regular floors and suitable for student level.

School, Executive, Game, Sports

#### Resumen

Una de las mejores herramientas de aprendizaje para los niños son los juegos. Los parques infantiles y parques infantiles son espacios donde los niños completan su desarrollo físico, mental y social. Es importante para la salud, el bienestar y el orden de la sociedad que los niños completen su desarrollo de manera saludable. Esto hace que el diseño de los parques infantiles sea mucho más importante. El juego es el bloque de construcción básico que apoya el desarrollo de los niños, que son los componentes básicos de la sociedad, desde el nacimiento hasta la adolescencia en muchos sentidos. El objetivo de este estudio es evaluar las opiniones de los administradores escolares sobre los patios y campos deportivos en sus escuelas. En el grupo de estudio de la investigación, se utilizó la técnica de entrevista cara a cara con 15 administradores escolares que trabajan en la Dirección Provincial de Educación Nacional de Gaziantep y de forma voluntaria. En la investigación, utilizando el método de entrevista, que es uno de los métodos de investigación cualitativa, los datos obtenidos fueron analizados por el método de análisis de contenido. Como resultado de la investigación, los administradores escolares manifestaron que los patios y áreas deportivas de las escuelas en las que trabajan son insuficientes. Al mismo tiempo, manifestaron que en las escuelas debe haber polideportivos y que la adecuación de los espacios debe estar en un alto nivel en cuanto al desarrollo de los niños. Los administradores escolares que participaron en la investigación afirmaron que los parques infantiles y los campos deportivos contribuyen al desarrollo educativo de los estudiantes. Se ha visto que debe haber áreas educativas, juegos infantiles y las áreas deportivas deben ser amplias y seguras. Además, respecto al patio de recreo y canchas deportivas del grupo de investigación; Se ha concluido que se deben construir salas de juegos y deportes, las áreas de juegos y deportes deben ser más estándar, polivalentes, pisos regulares y aptos para el nivel de los estudiantes.

### Escuela, Ejecutivo, Juego, Deportes

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#### Introduction

While playing with friends, the child learns the basic rules such as sharing, helping, establishing positive relations with the environment, respecting the rights of others and taking responsibility. Playing that requires physical power such as jumping, running, jumping, climbing and crawling not only ensures the regular functioning of systems such as circulation, respiration, digestion and excretion, but also increases oxygen intake, blood circulation and transport of nutrients to the tissues. In addition, the child can reflect the situations that disturb him in real life and his feelings that he cannot share with other people, symbolically, and can express them through play (snow *et al.*, 2019).

As a result of industrialization and urbanization, social changes have brought with them some physical changes. In addition to these changes, the multi-storey buildings have restricted the children's time outside and narrowed the playgrounds. (Şahin-Sak et al., 2018). As a result of these changes, children's outdoor playing culture has also begun to change (Ilgar and Cihan, 2018). Especially in the primary school period, the school and its garden are the meeting point of children both during school hours and outside school hours. School environments have an important place as places where students have a good time, satisfy their curiosity, and move freely besides their academic studies (Ayan & Ulaş, 2015). Schools and gardens are also social spaces that children can use in the most efficient way and meet the needs of all children (Sanoff, 2002).

The need for children's playgrounds is increasing day by day due to the fact that there are no areas that will allow group games, activities that require large areas such as running and cycling due to increasing housing and urbanization. Children's playgrounds, which are an important part of urban green space planning (Snow et al., 2019), allow children to relax outdoors, meet their play needs, discharge their excess energy, increase their social and provide their physiological development, contain various play elements and are designed for the purpose of play. are open spaces designed (Chancellor and Cevher-Kalburan, 2014). According to the 153rd article of the Ministry of National Education primary education institutions regulation, "By making use of the environmental opportunities for the students to travel, play and do sports at school; places such as sand pool, volleyball basketball courts and tools such as hanging, climbing, balance and jumping are provided. The importance of playgrounds has been mentioned with reference to the article "The maintenance and repair of these vehicles are done regularly" (Bozak *et al.*, 2019).

Playgrounds are open spaces that are heavily used and meet the active recreation needs of children (1-14 years old). When evaluated psychologically, the playground is outside the child, but does not belong to the outside world. It is a third field apart from inner and outer reality (Sağdıç and Demirkaya, 2019).

Children's playgrounds in schools offer potential opportunities for children to be physically and mentally dynamic during the class day. In the study on this subject, the necessary tools were developed for children's activity screening as a method, and these were used in 18 schools in rural Australia (schools of students aged 5-9-12) to develop children's active physical activities and to determine their active physical activity rates. In a school with a capacity of 200 students, it was determined that the playgrounds developed the active physical activities of 51.4% of boys and 41.6% of girls. Again, 14.7% of boys and 9.4% of girls were found to engage in active physical activity in playgrounds (Zask *et al.* 2001).

urbanization and Rapid construction increase the need for playgrounds. However, it is important that the playgrounds have some criteria in terms of quality as well as the increase in number. There are studies in which playgrounds in many different cities in our country are analyzed qualitatively and quantitatively (Kelkit and Ozel, 2003). Open green spaces and children's playgrounds, which are the signs of a quality and healthy environment in Turkey, are among the neglected areas that are not given any attention. It has been determined that children's playgrounds in various cities in Turkey are very inadequate in terms of size (Kaplan et al., 2019; Parvularia and Básica, 2022).

Considering the studies, there are limited number of studies on playgrounds and sports fields in school gardens in our country. This study was prepared to determine the opinions of school administrators about the playgrounds and sports fields in their schools. For this purpose, answers to the following questions were sought.

#### School administrators:

- What are the opinions of the school where he works about the playgrounds and sports fields?
- What are their thoughts on the adequacy of the playgrounds and sports fields of the school where they work?
- Does the school where he/she works need playgrounds and sports fields?
- Do the playgrounds and sports fields in the school gardens contribute to the educational development of the students? (How)
- What are the expectations of the school where he works from the playgrounds and sports fields?
- What are the suggestions of the school where he works for playgrounds and sports fields?

#### Method

Qualitative research is defined as research in which qualitative data collection methods such as observation, interview and document analysis are used, and a qualitative process is followed to reveal perceptions and events in a natural environment in a realistic and holistic way (Sağdıç and Demirkaya, 2019). The research design is Phenomenology, one qualitative research designs. phenomenology pattern focuses on phenomena that we are aware of but do not have an in-depth and detailed understanding of. In the study, the interview method was used as it would be effective in obtaining more detailed and detailed information about the opinions, approaches and comments of the school administrators about the voting areas in their schools (Şahin-Sak et al., 2018; Ilgar and Cihan, 2018; Amaya Restrepo and Mesa Ochoa, 2022).

#### Research group

The open-ended question form, which was prepared to evaluate the opinions of school administrators about the playgrounds and sports fields in the schools where they work, was applied to 15 school administrators working in public schools affiliated to Gaziantep Provincial Directorate of National Education. The data about the research group are given in Table 1.

| Variable               | Groups      | n  | 0/0  |
|------------------------|-------------|----|------|
| Gender                 | Male        | 11 | 73.3 |
|                        | Female      | 4  | 26.7 |
| Management             | 5 Years     | 7  | 46.6 |
| experience             | 10 Years    | 4  | 26.8 |
|                        | 15 Years    | 2  | 13.4 |
|                        | 20 Years    | 1  | 6.6  |
|                        | 21 Years    | 1  | 6.6  |
|                        | and above   |    |      |
| Professional seniority | 1-5 Years   | 4  | 26.7 |
|                        | 6 -10 Years | 8  | 53.4 |
|                        | 11-15 Years | 1  | 6.6  |
|                        | 16-20 Years | 1  | 6.6  |
|                        | 21-30 Years | 1  | 6.6  |
| Mission                | School      | 8  | 53.4 |
|                        | principal   |    |      |
|                        | Assistant   | 7  | 46.6 |
|                        | director    |    |      |
| Type of School         | High school | 10 | 66.6 |
|                        | Middle      | 5  | 33.4 |
|                        | School      |    |      |
| Educational Status     | Licence     | 10 | 66.6 |
|                        | Graduate    | 5  | 33.4 |

**Table 1** Personal characteristics of the research group (n=15)

When Table 1 is examined, 73.3% of the participants are male school administrators and 26.7% are female school administrators. Accordingly, the majority of the participants are male school administrators. It is seen that 46.6% of the participants have 5 years, 26.8% 10, 13.4% 15, 6.6% 20, 6.6% have 21 years or more management experience. 26.7% of the participants have 1-5 years, 53.4% have 6-10 years, 6.6% have 11-15 years, 6.6% have 16-20 years, 6.6% have 21-30 years of professional seniority. is seen. When we look at the task of the participants; 53.4% of them work as school principals and 46.6% as assistant principals. When we look at the type of school where the participants work; While 66.6% of them work in high school, 33.4% of them work in secondary school. When we look at the educational status of the participants; While 66.6% of them are undergraduate graduates, it is seen that 33.4% of them have postgraduate education.

### Preparation and application of the open-ended questionnaire

In the research, a semi-structured interview form consisting of 6 items was used to collect qualitative data. Through the interview technique, which is frequently used in qualitative research, the researcher tries to understand unobservable situations such as attitudes, experiences, intentions, thoughts, mental perceptions, comments and reactions (Kaplan *et al.*, 2019).

To develop the interview form, a comprehensive literature review was conducted, and the interview form was prepared. While preparing the semi-structured interview form, which is used as a data collection tool, a field survey was first conducted by the researcher and a semistructured interview form question pool was created, which includes questions that can be asked to school administrators about the subject. Then, the questions created by three experts were examined and the semi-structured interview form was finalized. None of the participants included in the study were compelled to participate in the research, principle of confidentiality meticulously complied with during the application and collection of the questionnaires. The interviews were recorded with a voice recorder and then these recordings were transcribed.

#### Analysis of data

The data obtained from the interview form used in the research were recorded with a voice recorder. Then, qualitative data were analyzed by content analysis method. Content analysis technique, which is frequently used, was used in the analysis of the data obtained from the questions in the interview form. (Sağdıç and Demirkaya, 2019).

The steps followed are as follows:

- Collection of research data.
- Coding of data.
- Creation of themes.
- Organizing data according to codes and themes.
- Interpretation of the findings.

#### **Results**

In this section, the findings related to the data obtained after the interviews with the working group are included.

| Themes  | n  | %    |
|---|----|------|
| Insufficient                                  | 9  | 50   |
| Sufficient                                    | 4  | 22.2 |
| Must have gym                                 | 4  | 22.2 |
| There are only football and basketball courts | 1  | 5.6  |
| Total   | 18 | 100  |

**Table 2** Distribution of school administrators' views on playgrounds and sports fields of the school where they work

In Table 2, 50% of the majority of the school administrators participating in the research stated that the playgrounds and sports areas are insufficient. In addition, some of the school administrators participating in the study; While 22.2% of them consider the playgrounds and sports fields as sufficient, they stated that there should be a gym. One school administrator stated that there are only football and basketball fields in their schools.

| Themes     | n  | %    |
|------------|----|------|
| Not enough | 11 | 73.4 |
| Sufficient | 4  | 26.6 |
| Total      | 15 | 100  |

**Table 3** Distribution of school administrators' views on the adequacy of the playground and sports fields of the school where they work

In Table 3, the majority of the school administrators participating in the research, 73.4% stated that the playground and sports areas of the school they work in are not sufficient. In addition, 26.6% of the participants stated that it was sufficient.

| Themes               | N  | %    |
|----------------------|----|------|
| Yes                  | 13 | 68.4 |
| Must have indoor gym | 4  | 21.1 |
| No                   | 2  | 10.5 |
| Total                | 19 | 100  |

**Table 4** Distribution of school administrators' opinions about whether their school needs playgrounds and sports areas

In Table 4, almost all of the school administrators participating in the research, 68.4% stated that the school they work in needs playgrounds and sports areas. In addition, regarding whether the school where the participants work needs playgrounds and sports areas; 21.1% of them stated that there should be an indoor gymnasium and no.

| <b>Themes</b>   | N  | %    |
|-----------------|----|------|
| It contributes  | 14 | 93.3 |
| No contribution | 1  | 6.7  |
| Total           | 15 | 100  |

**Table 5** Distribution of school administrators' views on the contribution of playgrounds and sports fields in school gardens to the educational development of students

In Table 5, almost all of the school administrators participating in the research stated that 93.3% of the game and sports fields contributed to the educational development of the students, while 1 participant stated that they had no contribution.

| Themes                            | N  | %    |
|-----------------------------------|----|------|
| Educational playgrounds should be | 13 | 28.9 |
| It must be safe                   | 12 | 26.7 |
| It should be wide                 | 12 | 26.7 |
| Indoor gyms should be             | 8  | 17.7 |
| Total                             | 45 | 100  |

**Table 6** Distribution of school administrators' views on their expectations from playgrounds and sports fields in their schools

In Table 6, regarding the expectations of the school administrators participating in the research from the playgrounds and sports fields in their schools; While 28.9% stated that there should be educational areas, 26.7% stated that playgrounds and sports areas should be wide and safe. In addition, 8 school administrators expressed their opinion that there should be indoor sports halls.

| Themes                             | N  | %    |
|------------------------------------|----|------|
| Games and gyms should be built     | 13 | 25   |
| Game and sports areas should be    | 13 | 25   |
| more standard                      |    |      |
| Playgrounds and sports fields      | 10 | 19.2 |
| should be multi-purpose            |    |      |
| The ground of the areas should be  | 8  | 15.4 |
| tidy                               |    |      |
| Fields must be appropriate for the | 8  | 15.4 |
| level of the student               |    |      |
| Total                              | 52 | 100  |

**Table 7** Distribution of school administrators' opinions about their suggestions about playgrounds in their schools

The majority of school administrators participating in the research in Table 7; game and sports halls should be built, game and sports areas should be more standard. In addition, the participants; It was seen that they suggested that the playgrounds and sports areas should be multipurpose, the floors of the areas should be regular, and the areas should be suitable for the level of students.

#### **Discussion**

In this part of the research, the results obtained as a result of the interviews with the school administrators regarding the playgrounds and sports fields in the official schools affiliated to the Ministry of National Education are included. When we examine the opinions of the school administrators participating in the research on the playground and sports fields of the school, it is seen that the majority of them stated that the playground and sports areas are insufficient. In addition, it was concluded that some of the school administrators found the playgrounds and sports fields in their schools sufficient and that there should be a gym in the schools (Gültekin and İra, 2021).

From this point of view, we can say that school administrators partially consider the playgrounds and sports areas in their schools to be sufficient, but there should be more sufficient areas for the development of students. Different studies have revealed that school gardens are not sufficient and suitable for students to spend time (Gültekin and İra, 2021).

When we examine the opinions of the school participating in the research on the adequacy of the playgrounds and sports areas, it has been concluded that the majority of them do not see the playgrounds and sports areas as sufficient. From this point of view, it can be said that school administrators see the playgrounds and sports fields in their schools as insufficient. In the study of Bozak et al. (2019), it is stated that due to the insufficient size of the outdoor playgrounds, there is a problem in the placement of the play materials, they are located very close to each other and may pose a danger to the safety of children. As a result of the studies carried out in the provinces of Isparta, Eskişehir, Erzurum, Kayseri, Ankara, Istanbul, Trabzon and Zonguldak; When the physical characteristics of the existing children's playgrounds are taken into account, it has been revealed that the areal sizes are not sufficient. It has also been observed that the existing playgrounds do not have the characteristics of a safe place where children can play freely.

Almost all of the school administrators participating in the research stated that the school they work in needs playgrounds and sports areas. In addition, it was observed that the participants expressed their opinion that there should be an indoor sports hall regarding whether the school they work in needs playgrounds and sports areas. In line with the opinions expressed by school administrators; we can say that there is a need for playgrounds and sports areas in many schools.

Almost all of the school administrators participating in the research, 93.3% stated that the playgrounds and sports fields contribute to the educational development of the students. Therefore, we can state that play and sports areas have an effect on the academic success of students and their development in every field.

In their study, Ayan et al. (2017) concluded that games and playgrounds have a great contribution on learning and in terms of children's development. It is clearly stated in the results of the research conducted in 8 provinces that the effects of playgrounds on the development of children are important. In the researches carried out in the provinces of Isparta, Eskişehir, Erzurum, Kayseri, Ankara, Istanbul, Trabzon and Zonguldak, the equipment area of children's playgrounds is insufficient in terms of square meter area per child, areal size and number of children's playgrounds. The fact that the equipment in the playgrounds is not designed according to the needs of the children and that the disabled children do not have their own parks has emerged as a common result (Bozak et al., 2019). Ayrıca yapılan farklı araştırmalarda; oyun endeksli eğitim programlarının çocukların motor becerileri, dil, bilişsel ve sosyal yönden gelişimlerinde olumlu katkılarının olduğu belirtilmektedir (Şahin-Sak et al., 2018; Alıncak et al., 2018).

When we look at the expectations of the school administrators participating in the research from the playgrounds and sports fields in their schools; It has been concluded that there should be educational areas, playgrounds and sports areas should be wide, safe and indoor sports halls should be. In this sense, it can be said that the playgrounds and sports areas in schools should be wider and safer as well as contributing to the education of the students. In the research conducted by Gültekin and İra (2021). it is stated that there are compressed sand and dry grass on the floor of the play materials in the open-air playground, while it is stated that only private schools have a safe ground surface.

The majority of the research group; It has been seen that they offer suggestions for the construction of game and sports halls and for the game and sports areas to be more standard. At the same time, school administrators participating in the research; It came to the forefront that they suggested that it should be multi-purpose, the floor should be regular and it should be suitable for the level of the student.

#### Conclusion

Considering the results of the study, it can be concluded that the playgrounds and sports areas of the schools they work in are insufficient. At the same time, they stated that there should be sports halls in schools and that the adequacy of the areas should be at a high level in terms of children's development.

School administrators participating in the research stated that playgrounds and sports fields contribute to the educational development of students. It has been seen that there should be educational areas, playgrounds and sports areas should be wide and safe. In addition, regarding the playground and sports fields of the research group; It has been concluded that game and sports halls should be built, game and sports areas should be more standard, multi-purpose, regular floors and suitable for student level.

It can be recommended that the number of playgrounds and sports areas that will meet the education and expectations of children should be increased and children's playgrounds should be given due importance.

Determining the lack of physical environment and equipment in the construction of schools by the Ministry of National Education, not allowing the newly opened schools for zoning when the deficiencies are not corrected, investing in order to eliminate this deficiency in existing schools, developing projects, increasing the inspections for the compliance of the physical environment and equipment with the safety and health conditions, in this direction. Administrative penalties for schools with deficiencies.

School administrators should consider the principles of ergonomics, especially safety and health, when choosing and designing playgrounds and sports areas.

Determining the expectations of children's play tendencies from playgrounds and considering them in the design of children's playgrounds.

The importance of children's playgrounds should be felt, original and qualified playgrounds should be arranged, the number of playgrounds that will meet the education and expectations of children should be increased, and local governments should give due importance to these areas.

While designing playgrounds, playgrounds should be created for disabled children. The importance of playgrounds, which are necessary for a healthy and productive next generation, should not be overlooked.

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#### References

Alıncak, F., Öztürk, M. A., & Turak, T. (2018). Pedagogical expectances from the playgrounds in the school gardens in classroom teachers. The Online Journal of Recreation and Sports, 7(4), 9-22.https://doi.org/10.22282/ojrs.2018.39

Amaya Restrepo, C. A., & Mesa Ochoa, D. (2022). El maestro: un árbol que narra sus experiencias sobre la discapacidad en el contexto rural de Santa Rosa de Osos.

Ayan, S., Soylu, Y., Bozdal, Ö., & Alincak, F. (2017). Investigation of emotional intelligence level of university students. European Journal of Physical Education and Sport Science. https://doi.org/10.5281/zenodo.569076

Ayan, S., & Ulaş, M. (2015). The examination of playground equipments which are used in Turkey according to the models in developed countries. Route Educational and Social Science Journal, 2(3), 130-145.

Bozak, A., Korkmaz, C., & Bolat, Y. (2019). What Do the School Directors Want to Change in Their School Buildings? An Evaluation of Physical Competences of Primary, Secondary and High School Buildings. International Journal of Progressive Education, 15(5), 238-256. https://eric.ed.gov/?id=EJ1232533

Chancellor, B., & Cevher-Kalburan, N. (2014). Comparing and contrasting primary school playgrounds in Turkey and Australia. International Education Journal: Comparative Perspectives, 13(2), 41-59. https://openjournals.library.sydney.edu.au/index.php/IEJ/article/view/6863

Gültekin, M., & İra, G. Ö. (2021). Classroom teachers'views on the physical learning environments of primary schools in Turkey. International Online Journal of Primary Education, 10(1), 180-192. Retrieved from https://dergipark.org.tr/en/pub/iojpe/issue/69625/1110395

Ilgar, E. A., & Cihan, B. B. (2018). A Phenomenological Analysis on Evaluation of Sports Management Department Curriculum by Sports Sciences Faculty Members. Journal of Curriculum and Teaching, 7(2), 139-150. https://eric.ed.gov/?id=EJ1198910

Kaplan, B., Grau-Perez, M., Çarkoglu, A., Ergör, G., Hayran, M., Navas-Acien, A., & Cohen, J. E. (2019). Smoke-free Turkey: Evaluation of outdoor areas of public places. Environmental research, 175, 79-83. https://doi.org/10.1016/j.envres.2019.05.003

Kelkit, A., & Ozel, A. E. (2003). A research on the determination of physical planning of school gardens in Çanakkale city. Journal of Applied Sciences, 3(4), 240-246. https://doi.org/10.3923/jas.2003.240.246

Parvularia, E., & Básica, E. (2022). Reglamento Interno y de Convivencia Escolar Año 2021.

Sağdıç, M., & Demirkaya, H. (2019). The Views of School Administrators toward Issues of School Siting: A Geographical Analysis. Tarıh Kultur Ve Sanat Arastırmaları Dergisi-Journal Of History Culture And Art Research, 8(3). http://doi.org/10.7596/taksad.v8i3.2184

Şahin-Sak, İ. T., Tantekin-Erden, F., & Pollard-Durodola, S. (2018). Turkish preschool teachers' beliefs and practices related to two dimensions of developmentally appropriate classroom management. Education 3-13, 46(1), 102-116. https://doi.org/10.1080/03004279.2016.1194447

Sanoff, H. (2002). Schools Designed with Community Participation. Washington, DC: National Clearinghouse for Educational Facilities. https://eric.ed.gov/?id=ED466725

Snow, D., Bundy, A., Tranter, P., Wyver, S., Naughton, G., Ragen, J., & Engelen, L. (2019). Girls' perspectives on the ideal school playground experience: An exploratory study of four Australian primary schools. Children's geographies, 17(2), 148-161.

https://doi.org/10.1080/14733285.2018.1463430

Zask, A., van Beurden, E., Barnett, L., Brooks, L. O., & Dietrich, U. C. (2001). Active school playgrounds—myth or reality? Results of the "move it groove it" project. Preventive medicine, 33(5), 402-408. https://doi.org/10.1006/pmed.2001.0905.