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Administrator opinions on the use of out-of-school learning environments in science and art centers†*

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Highlights:

- SAC administrators recognize out-of-school learning environments as valuable tools for student development.
- SAC administrators face financial, bureaucratic, and personnel constraints when conducting out-of-school learning activities.
- Out-of-school learning boosts student motivation, skills, interests, and enhances institutional reputation.
- SAC administrators recommend that collaboration, training and experience sharing be provided for better out-of-school learning.

Abstract

In today's world, relentless technological advancements have played a significant role in changing the structure and scope of the concept of learning. Learning is now extending beyond school boundaries at all educational levels. Particularly, students who come to Science and Art Centers (SAC) can enhance their existing talents by integrating the theoretical knowledge acquired at their schools with practical opportunities provided at these centers. In this context, planning activities in out-of-school learning environments has become a primary responsibility of SAC. This study aims to explore the opinions of SAC administrators (principals and vice principals) regarding out-of-school learning environments, understand their perceptions, address the gap in similar studies in the existing literature, and contribute to the field. A case study, a qualitative research method, was used in the research. The study group consists of 16 administrators (principals and vice principals) working in SAC centers located in the central and surrounding districts of Bursa province during the second semester of the 2023-2024 academic year. The tools used in the research are semi-structured interview forms prepared by the researchers. These forms consist of two main sections: the first section includes demographic information of the participants, and the second section contains a total of 6 open-ended questions. The data set obtained during the research process was subjected to content analysis. As a result of the research, SAC administrators stated that they have a good command of out-of-school learning environments, but they have difficulty in diversifying the existing concept in the field, that the applications made in out-of-school learning environments contribute to the students, and the institution, and that the most important problem SAC administrators have experienced at the point of implementing out-of-school learning environments in their institutions is financial, bureaucratic, and individuals-related.

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1. Introduction

The sustainability of a society and the ability of its individuals to adapt to changing competitive conditions are fundamentally dependent on the responsiveness and adaptability of its educational systems. Education is at the core of initiatives and decisions aimed at becoming an information society. It is indisputable that education serves as one of the primary dynamics driving a society's social, cultural, political, and economic development. Education is how individuals acquire behaviors, knowledge, skills, and competencies within specified goals. This process, which continues from birth to death, enables individuals to sustain their own lives while contributing to the development and progress of their society. Societies periodically modify their educational systems and develop policies targeting specific needs to enhance the qualifications of their human resources. The primary expectations of modern education systems include enabling students to learn through experience without being isolated from social life, transitioning them from passive listeners to active learners, fostering critical thinking and inquiry skills, enhancing their abilities in conflict resolution, problem-solving, and decision-making, developing creativity, recognizing relationships among concepts, and adopting an interdisciplinary perspective (Güngör & Göloğlu Demir, 2022). In particular, learning environments are crucial in the learning process, as they significantly influence students' motivation and performance (Agyekum, 2023; Bernard, 2012; Eshach, 2007). The design of learning environments should aim to support various learning pathways and optimize the learning process. These environments are expected to encourage students to transition from passive participants to active learners, foster critical thinking, creativity, and decision-making skills, and promote interdisciplinary perspectives by emphasizing the relationships between concepts.

Out-of-school learning environments prepare students for real life beyond school, offer diverse learning experiences, and emphasize collaboration and teamwork while fostering social skills such as leadership and conflict resolution. These qualities distinguish out-of-school learning environments significantly from traditional ones. Moreover, it is well-documented that such environments not only enhance students' motivation but also contribute to their academic success (Dönel Akgül & Arabacı, 2020; AIR, 2005; Riley, 2007; Schürmann & Quaiser-Pohl, 2022; Tolppanen & Aksela, 2013; Yıldırım, 2020). Education is not solely an activity conducted in formal settings; it is also carried out in informal environments and is a concept too broad to be confined within four walls. Studies conducted by Ertaş-Kılıç and Şen (2014) and Doldur and Ertaş-Kılıç (2023) revealed that students feel more comfortable, excited, and happy in informal settings compared to formal ones. Furthermore, out-of-school learning environments provide opportunities for students to construct knowledge based on their capacities and offer various options suited to their individual learning styles, which may differ from one student to another (Kubat, 2018; Yılmaz & Fırat Durdukoca, 2023).

Educational activities planned in out-of-school learning environments are described as beneficial for developing students' self-identity and social skills while also serving as engaging settings for students with low motivation (Aslan, 2020; Lin & Schunn, 2016; Ofsted, 2008; Schürmann & Quaiser-Pohl, 2022). Knapp (1996) emphasizes that for learning to be meaningful and enduring over time, students must first find the activity interesting and focus on it. Active participation in activities and relating the acquired knowledge to daily life is at the core of effective learning. Teaching conducted outside the classroom is enjoyable for students and enhances interactions between teachers, students, and students themselves (Topçu, 2017).

Furthermore, Bresler (1991) highlights that exploration and inquiry are vital for nurturing a child's natural curiosity, which forms the foundation of conceptual science learning. In this context, it can be argued that out-of-school learning environments stimulate students' curiosity, enhance their observation, research, and exploration skills, and positively influence their perceptions of science and technology (Eshach, 2007; Küçük & Yıldırım, 2020). Out-of-school learning environments extend beyond traditional museums and encompass a wide range of locations, including parks, camps, zoos, science/technology centers, botanical gardens (arboretums), planetariums, power plants (nuclear, hydroelectric, thermal, etc.), aquariums, space stations (simulators), observatories, water sources (dams, lakes, rivers, streams, etc.), industrial zones, construction sites, science fairs, factories, greenhouses,

libraries, science cafés/clubs, mosques, STEM laboratories, virtual reality environments, ruins, national parks, places of worship, inns/caravanserais, ancient cities, excavation sites, government mansions/municipality buildings, cultural centers, agricultural fields, nature centers, and numerous other sites of similar nature (Alkan & Bayri, 2019; Gül & Saz, 2023; Ramey-Gassert, Walberg III, & Walberg, 1994).

In summary, out-of-school learning environments are a broad concept that includes any space outside the classroom where formal or informal educational activities occur. The effectiveness of these environments depends on how the activities are structured and implemented. Poorly structured activities can hinder the achievement of curriculum goals (Moss, Esson, & Bazley, 2010; Yıldırım, 2020). Out-of-school learning activities can be conducted either as part of a specific plan and program to complement and enhance the curriculum or independently of any program, reflecting their flexible nature.

In educational activities planned in out-of-school learning environments, the presence of rich stimuli inherent to the nature of the environment enables students to test theoretical knowledge through hands-on experiences and practical applications in a natural setting. This not only enhances students' interest and encourages voluntary participation in activities but also facilitates more permanent learning outcomes (Behrendt & Franklin, 2014; Erçetin & Görgülü, 2018; Güneştan, 2023). González Motos (2016) identified seven criteria for effective out-of-school learning activities: establishing a clear connection between the activities and the school curriculum, conducting the activities under the guidance of a professional educator, planning a balanced duration for the activities (neither too long nor too short), ensuring regular participation as much as possible, employing experience-based or evidence-based methods, integrating theoretical content with game-based activities, and implementing various strategies for individual or group activities. Carrying out out-of-school learning activities within a structured program that enriches the curriculum and caters to different learning styles further emphasizes the importance of out-of-school learning environments.

Gifted students require more activities that address their individual learning needs, which will intensify their interests and curiosities alongside the regular classroom program (MEB, 2013: 6; Kutlu Abu, 2019). Out-of-school learning environments offer opportunities to captivate the curiosity of gifted students, attract their attention, and stimulate their desire to engage in research. Enrichment programs for gifted students should include activities tailored to their interests, integrate advanced content, processes, and products, have a comprehensive and interdisciplinary focus, promote effective, independent, and self-directed learning, require individualization and differentiation of the curriculum and instruction, and aim to develop problem-solving skills, and creativity (Bilgiç, Taştan, Kurukaya, Kaya, Avanoğlu, & Topal, 2021: 25). When supported by activities designed for gifted students, out-of-school learning environments contribute to enriching and differentiating the program. In these environments, activities are diversified to differentiate from the regular program (Bilgiç, Erdoğan, Ağaoğlu, & Ağaoğlu, 2012).

Article 15, paragraph f of the Science and Art Centers Regulation published by the Ministry of National Education in 2019 states: "*Participation in visits to historical sites, museums, industrial facilities, universities, festivals, fairs, and nearby areas, as well as attendance at conferences, performances, concerts, exhibitions, book signings, and all scientific, cultural, artistic, and social activities both within, and outside the institution, are considered part of educational, and teaching activities*." This provision opens the way for utilizing out-of-school learning environments in the education of gifted students. It emphasizes that such activities should be carried out within a structured plan.

Riley (2007) identified several benefits of out-of-school learning activities for gifted students:

1. Opportunities to develop positive social relationships with gifted peers and adults,
2. Opportunities to explore new areas of interest as well as to enhance existing interests and strengths,
3. Fostering autonomy, creativity, and leadership with guidance, and support,
4. Encouraging intellectual and academic creativity,
5. Enhancing decision-making, problem-solving, and communication skills,

6. Preventing failure, and the development of poor study habits,
7. Promoting a sense of belonging, increased enjoyment of school, heightened motivation, and the development of giftedness through enhanced school success,
8. A stronger, and more positive personal image through increased self-esteem, independent of academic abilities,
9. Helping students set stronger academic, and career goals.

In this context, it is clear that gifted students should also experience different learning environments to enhance their potential in addition to various teaching methods, tools, and techniques. However, there is a gap in the literature regarding the specific views of administrators working in Science and Art Centers (SAC) on out-of-school learning environments and a lack of in-depth examination of how these environments should be structured. This gap suggests a need for further research on the effective use of out-of-school learning environments and their contributions to students. Specifically, a detailed examination of the perspectives and experiences of administrators in SAC on this issue could provide valuable insights for better structuring and implementing out-of-school learning environments.

This study aims to fill the literature gap by examining SAC administrators' views on out-of-school learning environments and their contributions to students and institutions in detail. Our research also aims to present practical solutions for practitioners by exploring the challenges faced by administrators and the strategies they develop to overcome them. Additionally, by offering policy recommendations for the more effective use of out-of-school learning environments in SAC, the study seeks to provide valuable findings for data-driven policymakers and practitioners.

1.1. Purpose of the Research

This research aims to explore the views, perceptions, and perspectives of 16 school administrators (9 principals, 7 vice principals) from 9 SAC institutions located in the city center, and districts of Bursa in the 2023-2024 academic year regarding out-of-school learning environments. Based on the research question, "What are the views of SAC administrators on out-of-school learning environments?", the following sub-questions have been investigated.

1. According to SAC administrators, which spaces or environments are considered out-of-school learning environments?
2. According to SAC administrators, what are the contributions of out-of-school learning environments to students and the institution?
3. How do SAC administrators encourage teachers to participate in out-of-school learning activities?
4. How is the use of out-of-school learning environments (such as lessons, activities, frequency) in SAC institutions?
5. According to SAC administrators, what are the challenges encountered in the out-of-school learning process, and what strategies are used to resolve these challenges?
6. What policies do SAC administrators propose for the use and development of out-of-school learning environments?

2. Method

This section provides information about the research design, study group, data collection tools, process, and analysis.

2.1. Research Design

This research aims to examine the views of SAC administrators on out-of-school learning environments deeply. The case study method, one of the qualitative research designs, has been chosen to achieve this goal. The case study is a qualitative research method that allows one to examine events, processes, and interactions in a specific context in detail, offering flexible and in-depth data collection

possibilities (Yin, 1984). Toraman Türk (2023: 10) justified the use of case studies as a way to define and interpret a specific situation.

The case study method is particularly used in understanding complex processes and multi-dimensional phenomena (Gustafsson, 2017). One of the main reasons for selecting this method is its ability to provide rich data on how a multi-dimensional and dynamic phenomenon, such as out-of-school learning environments, is perceived and implemented contextually. Yin (2013) emphasizes that to achieve a comprehensive understanding of the case, one should not limit the study to a single case, and the potential interactions between the case and its context should be explored. He suggests that examining the case independently of its context could lead to significant problems in obtaining accurate results. The case study method offers a framework for understanding the unique characteristics and dynamics of the phenomenon by thoroughly investigating SAC administrators' experiences, perceptions, and strategies regarding these environments (Kümbetoğlu, 2015). In this research, a case study was used to deeply analyze the perspectives of SAC administrators on out-of-school learning environments and the contributions of these environments to students and institutions. The challenges encountered in this context and the strategies developed to address these challenges have also been identified. The preference for the case study method has also created a research strategy aimed at evaluating the data obtained within its context, which is in line with the purpose of this study. This strategy allows for a deeper understanding and interpretation of SAC administrators' experiences and perceptions of out-of-school learning environments.

2.2. Working Group

The study group of this research consists of 16 school administrators (9 principals and 7 vice principals) working in 9 Science and Art Centers (SAC) operating in Bursa province, excluding the SAC where the researchers are employed. To conduct this study, which enables an in-depth examination of the research topic, a purposive sampling method was preferred, aiming to select phenomena, events, and situations with specific characteristics for deep exploration and explanation. Among the purposive sampling methods, criterion sampling involves selecting individuals, situations, or objects that meet the predefined criteria (such as location, status, gender, etc.) for the sample. The reason for choosing maximum variation sampling, another method of purposive sampling, is that the situation itself consists of similar yet different conditions (Büyüköztürk et al., 2018).

In line with this, 9 out of the 10 Science and Art Centers in Bursa, including voluntary principals and vice principals, were included in the study. One of the researchers is currently the principal of a Science and Art Center and, in accordance with ethical principles, did not include the institution where they are employed in the study. The participating administrators were informed about the purpose of the research and where the research results would be used. The participating administrators are coded as K1, K2, K3, etc. The distribution of participants by gender, educational background, years of professional experience, years of working at SAC, and years of being a principal at SAC is presented in Table 1 below.

2.3. Data Collection Tools

In this study, the process of developing the data collection tool began with an extensive literature review to ensure the tool would effectively address the research questions. In this context, a semi-structured interview form consisting of 9 questions was created to gather in-depth insights from the participants. The interview form was reviewed by two different field experts, and adjustments were made to the form based on their feedback. A question that was deemed not to align perfectly with the research questions was removed from the form.

Creswell (2013) emphasizes the critical role of pilot studies in enhancing the validity of data collection tools. To ensure the validity of the interview form, an online pilot study was conducted with three SAC principals from different cities. Researchers such as Creswell (2013) and Maxwell (2018) have noted that multiple pilot studies are crucial for ensuring the validity of data collection tools and improving the reliability of research findings. Specifically, the first pilot study is used for a general evaluation, the

second study tests the effectiveness of the adjustments made, and the third study is used for final validation. This multi-stage process is essential to strengthen methodological rigor and ensure the accuracy of the data collected. It is a commonly recommended approach in the literature to enhance both the internal validity of the study, and the generalizability of the results (Creswell, 2013; Maxwell, 2018). Based on feedback from participants in the pilot studies, the form was revised and finalized.

Table 1. Demographic characteristics of the participants

Participant Code	Gender	Education Status	Branch	Director/Deputy Director	Professional Experience	Total Years of Work at SAC	Year of Management at SAC
K1	Male	Master's degree	Social Studies Teacher	Manager	23-28 years	16 years	7 years
K2	Male	Bachelor's degree	Physics Teacher	Manager	29 years and more	21 years	16 years
K3	Woman	Master's degree	Primary School Mathematics Teacher	Manager	10-15 years	1 year	6 months
K4	Male	Master's degree	Mathematics Teacher	Manager	23-28 years	5 years	5 years
K5	Male	Bachelor's degree	Turkish Language Teacher	Manager	17-22 years	6 years	5 years
K6	Male	Bachelor's degree	Philosophy Teacher	Manager	17-22 years	4 years	4 years
K7	Male	Master's degree	Primary School Teacher	Manager	11-16 years	2 years	2 years
K8	Male	Bachelor's degree	Literature Teacher	Manager	29 years and more	3 years	6 years
K9	Male	Master's degree	Primary School Teacher	Deputy Director	11-16 years	3 years	3 years
K10	Male	Bachelor's degree	Primary School Teacher	Deputy Director	23-28 years	3 years	3 years
K11	Male	Master's degree	Literature Teacher	Deputy Director	11-16 years	2 years	1 year
K12	Male	Bachelor's degree	Primary School Teacher	Deputy Director	29 years and more	2 years	2 years
K13	Male	Bachelor's degree	Primary School Teacher	Deputy Director	17-22 years	7 months	7 months
K14	Male	Bachelor's degree	Technology and Design Teacher	Deputy Director	15-20 years	7 months	7 months
K15	Woman	Master's degree	Social Studies Teacher	Deputy Director	11-16 years	7 years	4 years
K16	Male	Master's degree	History Teacher	Manager	29 years and more	20 years	16 years

The questions in the interview form were designed to deeply explore the participants' perceptions and experiences regarding out-of-school learning environments. These questions focused on key topics such as out-of-school learning environments, their contributions to students and teachers, challenges encountered in practice, and policies that need to be developed. The interviews were conducted one-on-one with the participants, each lasting an average of 25 minutes. All interviews were recorded with the participants' consent using audio recording devices. For one participant (a vice principal) who did not grant consent for audio recording, the researchers documented the interview through detailed notes.

2.4. Analysis of Data

The data collected in this study were analyzed using content analysis, one of the most commonly used methods in qualitative data analysis. Creswell (2013) and Yıldırım and Şimşek (2018) state that content analysis is a fundamental method. Content analysis involves examining and coding the data in line with the purpose of the research (Yıldırım & Şimşek, 2018, pp. 250-260). The researchers transcribed the interview records after the interviews and sent them to the participants for confirmation to ensure their accuracy. Creswell (2013) suggests that such a validation process is an important strategy to

increase the validity of qualitative research. Feedback from participants was obtained, confirming that the data were accurately reflected. Creswell (2013) emphasizes the critical importance of the process of coding data and creating themes In qualitative research for an in-depth analysis of the study, the following steps were taken in the content analysis process: the data were carefully read and coded, the relationships between the codes were examined, and similar codes were grouped together to form categories. Two independent field experts evaluated the reliability of the analysis to enhance its reliability. One expert is an administrator with a PhD in educational management and supervision; the other is a teacher with a PhD in science education. Both experts are also authors of this article. In line with the study's purpose and the data's characteristics, both experts independently conducted the coding and categorization processes. After the coding process was completed, the codes and categories created by the experts were compared. The reliability analysis method proposed by Miles and Huberman (1994) was used to assess the coding results' reliability. This method's consistency rate of at least 80% between the two coders indicates that the coding is reliable. In this study, the consistency rate was calculated as 87%. This rate is considered an important indicator reinforcing the reliability of the research findings. Although the consistency rate between the coders was high, some differences in the codings were observed. A meeting was held to resolve these differences. During the meeting, both experts discussed their views along with their justifications, and a consensus was reached after this process. Once the final agreement was reached, the analysis process was completed. Creswell (2013) highlights that independent review, and reliability analyses like these are important steps to increase the reliability of qualitative research. During the data analysis process, a reflective attitude was adopted throughout the research to minimize the researcher's subjective interpretations and maintain a more objective perspective. Creswell (2013) emphasizes that researchers should be aware of their own biases and potential influences on the research process and that it is crucial to minimize these effects. Therefore, throughout all stages of the study, the researchers used participant validation, ensured transparency in data analysis, applied audit trails, and received feedback from other researchers. It is believed that this contributed to grounding the results on a more objective foundation.

3. Findings

This section presents the findings obtained from the responses of 16 school administrators (9 principals, 7 vice-principals) working in 9 Science and Art Centers in the Bursa region. The researcher's own SAC is excluded from the scope of the study. The data obtained in accordance with the research aim were categorized under codes, and categories were developed based on the participants' views. Direct quotes from the participants' responses were used to summarize the findings. The first of these findings focuses on out-of-school learning environments.

3.1. Out-of-School Learning Environments (Places and Environments)

When SAC administrators were asked about the environments that come to mind when thinking of out-of-school learning environments, various spaces and activity areas that can be used outside the school building were listed. The out-of-school learning environments mentioned by the participants and their frequency values are presented in Table 2.

The findings obtained from the responses of SAC administrators clearly indicate that museums are most commonly associated with out-of-school learning environments. Nature trips, science centers, and historical sites follow closely behind. Other locations, and activities were mentioned at lower frequencies. These findings reveal that the out-of-school learning environments perceived by SAC administrators are quite diverse, and rich.

One participant stated, "Museums, art galleries, nature, national parks, science centers, factories, workshops, farms, local and general historical sites, exhibitions, fairs, and festivals come to mind when we think of out-of-school learning environments. In short, out-of-school learning environments are schools without walls." (K7). Another participant emphasized the various dimensions of out-of-school learning environments by stating, "Out-of-school learning environments involve going to places where

knowledge exists in real life, such as nature, streets, forests, factories, workshops, and laboratories, outside the formal and rigid classroom setting." (K8). Similarly, "You can find education everywhere, outside of school." (K13) highlighted the broad scope of out-of-school learning environments. Participants also pointed out that these environments should be chosen based on the lesson's subject. "In other words, visiting places related to the lesson's subject is more appropriate." (K14) and "The chosen environment will vary depending on what you are doing and your goal." (K15) emphasized the importance of selecting environments that align with the lesson's content while ensuring this is done within a planned framework.

Table 2. Out-of-school learning environments and frequencies

Category	Code	f
Education and Science	Museums	11
	Science Centers	6
	Laboratories	4
	Universities	3
	Libraries	3
	Agricultural Institutes	2
History and Culture	Historical Sites	5
	Workshops	4
	Book Fairs	3
	Exhibitions/Art Galleries	2
Nature and Environment	Nature Tours	7
	National Parks	3
	Field Trips	2
	Farms	1
	Zoos	1
Industry and Technology	Factories	4
Entertainment and Recreation	Sports Activities	2
	Playgrounds	2
	Cinema	1
	Camps	1
	Festivals or Carnivals	1
Special Trips	International Trips	1
	Out-of-State Trips	1
General Learning Environments	Anywhere Outside School	3

In summary, SAC administrators agree on the diversity and richness of out-of-school learning environments. These environments offer students different learning experiences, ranging from museums to nature trips, from science centers to historical sites. One participant described out-of-school learning environments as "*Family environment (many behaviors exhibited in the future are influenced by family members' behaviors), museums (children see and learn many objects they cannot see or that are no longer functional in their time, which helps them connect with the past), small workshops (ceramics, carpentry, manufacturing places, etc.)*" (K16). Another participant highlighted the importance of various spaces: "*Museum, cinema, nature trips, reading books in cafes, university tours, science centers, book fairs*" (K11).

3.2. Contribution of Out-of-School Learning Environments to Students and Institutions

When SAC administrators were asked about the effects or contributions of out-of-school learning environments on students' skills, the participants emphasized that these environments contribute to developing various skills in students, including cognitive, social, and personal skills. The contributions and frequency values indicated by the participants are presented in Table 3.

When SAC administrators were asked about the impact and contribution of out-of-school learning environments on students' skills, they emphasized that these environments help develop various skills, including cognitive, social, and personal abilities. The contributions mentioned by the participants and their frequency values are displayed in Table 3. Based on the responses from the SAC administrators, it seems they believe out-of-school learning environments contribute to students' skill development in several ways. Hands-on learning (f=11), thinking skills (f=7), and socialization (f=6) are among the most frequently cited contributions. These findings underscore the importance of out-of-school learning environments for students. SAC administrators stated that these environments significantly support

students' cognitive development. One participant remarked, "Out-of-school learning environments are the epitome of the hands-on learning model. The knowledge students acquire in this way tends to be more lasting." (K5) In addition to hands-on learning and enduring understanding, it was also noted that these environments enhance students' social skills. For instance, one participant shared, "Socializing, teamwork, and the self-confidence that the different environment provides for the child's self-expression are crucial. Gifted children, on the other hand, may struggle to express themselves in every setting. When I take that child to the beach, they engage in activities they might not do in the classroom, allowing them to express themselves more freely." (K1) Out-of-school learning environments also enable students to gain diverse perspectives and develop problem-solving skills. One participant expressed, "Out-of-school learning environments help students gain different perspectives and foster learning through concrete experiences. They learn while having fun, making hands-on learning a reality." (K10)

Table 3. Contributions and frequencies of out-of-school learning environments to students

Category	Code	f
Cognitive Development	Learning by Doing	11
	Thinking Skills	7
	Permanent Learning	4
	Different Perspectives	2
	Learning Richness	2
	Decision Making	1
	Problem Solving	1
Social Development	Socialization	6
	Teamwork	2
Individual and Emotional Development	Recognizing Your Talent	4
	Observation	3
	Self-Expression	2
	Self-Confidence	2
	Discovering Interests	1
	Life Skills	1
	Motor Skills	1
	Preventing Bias	1

Additionally, participants mentioned that out-of-school learning environments are ideal for latent learning and hands-on learning. They also pointed out that these environments increase the retention of the learned knowledge. One participant highlighted, "*It would be more realistic, more meaningful, and could be more lasting. It attracts the child's attention. Hands-on learning takes place, social skills, problem-solving skills, thinking skills, and attitudes are enhanced*." (K4). Another participant said, "*Out-of-school learning environments are perfect for us because we have enrichment and differentiated education, so these environments are a perfect fit. For example, if I give an example from Bursa Technical University, witnessing the process of making drones taught us a lot*." (K5). "*I can say that it's the essence of hands-on learning*." (K5) and "*Out-of-school learning environments generally provide lasting learning through hands-on experiences. The student establishes a direct link between the information and its use, doesn't forget it, and can recall it from memory at the right time and place.*" (K8) were statements emphasizing the contribution to the retention of knowledge. Another participant said, "*In these environments, the child experiences spontaneous and latent learning rather than planned learning processes like in school. Since these learnings happen through hands-on experiences, they are more lasting and can be recalled when needed.*" (K9)

In summary, out-of-school learning environments significantly develop students' cognitive, social, individual, and emotional skills. These environments help students acquire various skills, including hands-on learning, socializing, gaining different perspectives, and improving knowledge retention. A participant stated, "Social skills develop. Hands-on learning leads to lasting understanding. Students can compare characters in novels and stories with those in real life." (K11), emphasizing the contribution of out-of-school learning environments to social skills. Another participant expressed, "Out-of-school learning environments enhance students' understanding of events concretely, increasing their attention and motivation while fostering personal and social skills." (K16), highlighting the benefits of these environments for students.

When SAC administrators were asked about the contribution of out-of-school learning activities to their institutions, it became evident that they believe these activities significantly impact institutional

success, image, and sense of belonging. Participants emphasized that such activities increase the institution's recognition and strengthen the motivation and commitment of teachers and students. The contributions and frequency values mentioned by the participants are presented in Table 4.

Table 4. Contributions and frequencies of out-of-school learning environments to the institution

Category	Code	f
Institutional Development	Organizational Success	6
	Institutional Image	5
	Organizational Capacity	1
	Materials and Teaching Aids	1
	Richness of Application	1
	Organizational Culture	1
Belonging	Parental Belonging	2
	Student Belonging	2
	Student Happiness	1
	Teacher Happiness	1
Teamwork	Team Spirit	2
	Sharing Responsibility	1
Teacher/Student Development	Teacher Competence	1
	Peer Learning	1

One participant stated, "*It definitely helps increase the institution's image, recognition, and reputation. Since out-of-school learning activities provide teachers, and students with the opportunity to acquire new knowledge, and experiences, it supports their success in different fields and contributes to their development.*" (K2). Another participant noted, "*If you organize well, the parent's perspective on the institution changes. They can be more generous in supporting you.*" (K1). A further participant said, "*The parent's sense of belonging to the institution increases. The parent asks about areas where they can support. They play an active role in the decisions the institution makes. The student adopts the institution, creating a more enthusiastic learning environment.*" (K11). These statements clearly highlight the financial, and moral contributions that out-of-school learning environments make to the institution.

It is concluded that contributions such as increased institutional success and image, enhanced parent and student affiliation, and development of institutional capacity occur as a result of the variety of activities conducted in out-of-school environments. This demonstrates the significant role out-of-school learning environments play in institutional development and affiliation.

3.3. Incentives Given to Teachers for Out-of-School Learning Activities

When SAC administrators were asked how they encourage teachers to use out-of-school learning environments, they were found to use various motivational methods. The participants indicated that they provide administrative, psychological, and motivational support, offer bureaucratic ease, and provide financial assistance to teachers. The motivational methods mentioned by the participants and their frequency values are shown in Table 5.

The findings from the responses of SAC administrators show that teachers receive various types of support for out-of-school learning activities. Bureaucratic ease (f=6) and early planning at the beginning of the term (f=6) are among the most frequently mentioned types of encouragement. These findings highlight the diversity of support provided by school administrators to teachers for conducting out-of-school learning activities.

Table 5. Types and frequencies of support provided to teachers for out-of-school learning activities

Category	Code	f
Administrative Measures	Bureaucratic Ease	6
	Early Planning	6
	Resource Support	2
	Mandatory Requirement	1
	Ease in the Program	1
Psychological/Motivational Support	Encouragement	3
	Recommendation	3
	Positive Attitude	3
Promotion/Visibility	Social Media Shares	1

One participant stated, "We encourage them. Ideas are generally supported in a positive direction. We support teachers by motivating them to take their ideas further." (K11). Another participant said, "I encourage teachers to carry out activities in out-of-school learning environments. I constantly mention it in meetings. In particular, I try to align colleagues' schedules who can organize trips more easily." (K15). These statements illustrate the support provided by school administrators to teachers for out-of-school learning environments. School administrations prioritize out-of-school learning environments, offering both administrative and psychological support to motivate teachers. Additionally, it can be concluded that administrators adopt strategies such as mandatory planning at the beginning of the term and applying pressure to implement out-of-school learning activities.

3.4. Out-of-School Learning Environments in SACs (Courses-Activities-Frequency)

When SAC administrators were asked about the types of activities conducted in their institutions within the framework of various lessons and the frequency of these activities, it was found that such regular activities occurred in multiple lessons and events. Participants mentioned organizing various activities, including nature trips, museum visits, and laboratory work in subjects like science, mathematics, biology, and visual arts. The participants detailed the frequency and scope of these activities. The activities noted by the participants and their frequency values are presented in Table 6.

Table 6. Lessons, activities, frequency in out-of-school learning activities

Tema	Category	Code	f
Out-of-School Learning Environments	Lessons	Science	10
		Biology	8
		Mathematics	6
		Classroom Teaching	6
		Visual Arts	5
		History	4
		Music	4
		English	3
		Social Studies	3
		Physics	3
		Geography	2
		Turkish	2
		Literature	2
		Chemistry	2
		Technology and Design	1
	Activities	Nature Trip	13
		Museum	5
		GUHEM	5
		Science Centers	4
		Historical Sites	4
		Author Meetings	2
		Innovation Center	2
		TARGEM	2
		Artistic Events	2
		University	2
		Factory	2
		Archaeological Park	1
		Abroad	1
		Library	1
		Book Fair	1
		Excavation Site	1

		Festival	1
		Agricultural High School	1
		Workshops	1
	Frequency	Not Very Frequent	11
		2-3 Events per Term	4
		10 Events per Year	1

In response to a participant's statement, "In subjects such as biology, mathematics, chemistry, classroom teaching, visual arts, and science, participation in the finals of TUBITAK middle and high school competitions is organized both within the city and outside of it. Additionally, activities for the TEKNOFEST finals in physics, chemistry, biology, and technology design have been conducted outside the city." (K10), another participant remarked, "In the Turkish language subject, we hold book fairs and author meetings; in art, we organize museum visits and sculpture workshops using materials found in nature. These activities are held once a month across different subjects." (K3), explaining how often extracurricular learning activities are organized at their institution. Another participant mentioned, "We organize activities such as nature trips, visits to national parks, historical sites, and geographical formations. These activities are occasionally conducted, depending on weather conditions, and with the approval of teachers and administrators." (K15), indicating that such activities are less frequent at their institution.

These activities across various subjects like biology, mathematics, science, history, and art enrich students' learning experiences and aid them in acquiring knowledge in diverse fields. This underscores the crucial role of extracurricular learning environments in education. The findings of this study clearly demonstrate the variety and frequency of extracurricular learning activities in SAC institutions and the importance of activities related to different subjects. Activities such as nature trips, museum visits, and laboratory work in science, biology, mathematics, and visual arts enhance students' learning processes and enable them to develop knowledge in various disciplines. This suggests that extracurricular learning environments contribute to students' academic achievements and their creative and critical thinking skills. Furthermore, these environments are essential for helping students apply the theoretical knowledge they acquire to real-life situations.

3.5. Policy Recommendations for Out-of-School Learning Activities

When SAC administrators were asked about the policies they could develop for using extracurricular learning environments, they proposed suggestions involving administrative, financial, and structural arrangements. Participants suggested making extracurricular learning activities mandatory and providing financial and logistical support. These policy suggestions significantly contribute to the more effective and widespread use of extracurricular learning environments. The participants' suggestions are shown in Table 9.

Table 9. Policy recommendations for out-of-school learning activities

Category	Code	f
Administrative and Structural Arrangements	Obligation in the Guidelines	7
	Protocols	5
	Bureaucratic Ease	3
	Teacher Competence	3
	Structural Changes in SAC	2
	Providing Ease for Students	1
	Physical Facilities of SAC	1
Stakeholder Support	Financial Support	4
	Transportation Support for Students	1
	Parental Involvement	1
Event Design	Interdisciplinary Activities	2
	Appropriate Design of Activities for Their Purpose	1

One participant stated, "In SAC institutions, I would make it mandatory to have a certain number of extracurricular activities in the programs until the system is well established. This could take five years or even ten. Until the system feels settled, I would establish minimum and maximum limits. I would set a lower limit for the number of extracurricular activities that must be implemented, either subject-based or through interdisciplinary activities." (K7). Another participant said, "I would include activities in the SAC framework program that focus on utilizing extracurricular learning environments or set a certain number to be completed throughout the year. I will wait for feedback on these activities. Additionally, I would ensure unlimited access or support for activities conducted by other institutions." (K3), emphasizing the necessity of including them in the program. A third participant noted, "Teachers need training. One option could be museum education or training on planning extracurricular activities. I'm not sure, but they require some training. Also, it should be included in the regulations. Every discipline should plan at least one extracurricular activity per year." (K14), highlighting the need for in-service teacher training on planning extracurricular learning environments. These statements clearly reveal various policy suggestions for extracurricular learning activities, along with the reasoning behind them. We can say that policy proposals in areas such as administrative and structural arrangements, financial support, and activity design are crucial factors in ensuring the effective and widespread implementation of extracurricular learning activities.

4. Discussion and Conclusion

This study examines the views of the directors and deputy directors of the nine Science and Art Centers (SACs) operating in Bursa Province regarding out-of-school learning environments. Based on the findings presented in the results section, several conclusions have been reached. The first notable finding in the study is the frequency with which the concept of museums is mentioned, which stands out as the most recurring. The reasons for this can be considered as follows: the absence of brochures introducing out-of-school learning environments specific to SACs in a historical center like Bursa, and the city's rich historical sites and museums providing a wealth of out-of-school learning environments. Weber (2022) emphasized the role of museums in nurturing versatile and critically thinking individuals with high emotional intelligence, a sense of citizenship, and democratic values. James (1987) noted that museum visits excitedly engage gifted students, encouraging them to take risks and grow. In this context, museums are one of SAC students' most important educational environments. The frequent mention of museums in the definitions of SAC administrators aligns with similar findings in Çetin's (2021) study. Furthermore, in Arkan's (2022) research, the concept of out-of-school learning environments developed by administrators was most frequently associated with museums, similar to the results of both this thesis and our study.

Another finding from the study aligns with the results of Arkan (2022) and Karbeyaz and Karamustafaoğlu (2021), indicating that out-of-school learning environments contribute to students' lasting learning and experiential learning through doing and seeing. This is consistent with the current research. Nundy (1999) explored the impact of field trips on middle school students and found that these trips influenced cognitive processes and offered students the opportunity to apply their knowledge. Furthermore, Lai (1999) discovered that the benefits students gained in the field could not be transferred back to the classroom in a study involving middle school students in Hong Kong. However, SAC administrators noted that out-of-school learning environments reinforce classroom learning. Therefore, this aspect differs from the findings of the current article. Taş and Gülen (2019) reported that out-of-school learning environments utilized in science lessons help improve friendship relations among students. Thus, this study's findings align with our research results. Similarly, the study by Kırıktaş and Eslek (2017) concluded that students readily structured the information after engaging in activities within out-of-school learning environments. Jones (2023) indicated that out-of-school learning environments shape school culture, help students discover their interests, and promote meaningful relationships with peers, thereby enhancing their social skills.

In our study, administrators stated that the educational activities conducted in out-of-school learning environments contribute to increasing the success of their institutions. In the study by Umur Erkuş and Taşdemir (2024), it was concluded that out-of-school learning environments increase students' academic success, and learning motivation, positively affect institutional image, and strengthen the interaction between students, and teachers. Wilson (2009) noted that out-of-school learning environments enhance the school's spirit. This expression of enhancing the school's spirit can be interpreted as uniting stakeholders on common ground, contributing to the institution's culture, and fostering a sense of belonging. Therefore, this study's findings align with our research results. Alkan (2023), Alkan and Bülbül (2024), and Aydemir and Toker-Gökçe (2016) stated that activities carried out in out-of-school learning environments help develop students' sense of belonging to the school, facilitate ownership of the school, and make them more likely to enjoy school. This aspect aligns with the results of our study.

One of the other findings in our research is that administrators provided the most bureaucratic support to teachers during the out-of-school learning environment process. In the article by Karbeyaz et al. (2024), teachers stated that they did not receive enough support from school administration when planning out-of-school learning activities (45%). In the study by Ergün and Aslan (2023), a large number of teachers reported facing administrative issues when planning out-of-school activities. Other studies (Selanik-Ay & Erbasan, 2016) pointed out problems with obtaining permissions, security, financial issues, and transportation when using out-of-school learning environments. The fact that out-of-school learning environments and activities are included in SAC regulations and that administrators are aware of their impact on student success suggests that administrators are more willing, open, and supportive of using these environments in educational processes.

A significant finding from our study is that the activities conducted by teachers in out-of-school learning environments were predominantly concentrated in the science and technology fields. In his article, Göksu (2020) highlighted the frequent use of out-of-school learning environments in practical science lessons during the period of Turkish educational history, particularly in Village Institutes. A prime example is the French "Excursion" course at Kayseri Village Teacher School, where outdoor field trips were organized, students researched trees, and explanations were provided on why leaves turned yellow. The focus on science in Village Institutes aligns with the findings of our study, suggesting a similar pattern.

As indicated by the administrators, the most frequent activity in out-of-school learning environments was nature trips. Dere and Çifçi (2022) found that teachers most commonly conducted nature trips, and observations as part of their out-of-school activities. In Arkan's (2022) study, it was found that social studies teachers most frequently engaged in field trips, and observation-based activities, which is consistent with the results of our study. According to Heras, Medir, and Salazar (2019), participation in outdoor activities or field trips provides students social, emotional, and behavioral benefits. Therefore, nature trips benefit SAC students' behavioral, social, and emotional development.

Many of the administrators stated that at least one event was held during a period at their institutions. In the study by Dere and Çifçi (2022), preschool teachers indicated that they sometimes used out-of-school learning environments in their institutions, suggesting a similarity between their results and ours. In Munday's (2008) study of 60 teachers in Australian middle schools, teachers acknowledged the benefits of out-of-school learning environments. However, they reported that such activities were conducted only once or twice a year, reflecting a similar pattern in our study. Key limiting factors included students receiving education outside regular hours at SACs, lessons being held in the evenings or on weekends, the need for official permits (from parents, schools, or the Ministry of Education), and transportation and resource challenges.

One of the main problems administrators highlight in the out-of-school learning process is the centers' financial constraints. Similar challenges have been reported in various studies involving school administrators. In Arkan's (2022) research, significant challenges faced by school administrators in out-of-school learning activities were identified, including administrative, environmental, and financial

challenges and difficulties stemming from educational stakeholders. Oberle, Zeni, Munday, and Brussoni (2021) categorized challenges in out-of-school learning environments into four themes: teacher qualifications, systemic factors (support from administrators, school policies/mission/vision, funding/resources, curriculum), cultural factors (school culture, societal beliefs about education, family background), and environmental factors (weather, natural environment-related issues). These challenges align with the findings of our research.

Administrators' most frequently developed solutions to these challenges were obtaining support from stakeholders. In studies by Aydemir and Toker-Gökçe (2016) and Alkan (2023), school principals emphasized the importance of securing financial support from stakeholders, especially parents, and negotiating with local governments and public institutions for partnerships. The findings from these studies align with our research results.

Regarding policy recommendations for improving the use and development of out-of-school learning environments, administrators most frequently suggested that the use of these environments should be made mandatory in the relevant legislation. Generally, SAC administrators' policy recommendations for out-of-school learning environments are related to proposed changes in legislation. They emphasized the need for activities to meet specific standards and be planned in advance to ensure their appropriateness and effectiveness. Based on this, various recommendations have been proposed to make out-of-school learning activities at SACs more effective and efficient.

Given our country's historical and cultural richness, out-of-school learning environments such as museums and science centers should be utilized more actively. To ensure SAC students benefit from these rich educational environments, at least one out-of-school learning activity should be planned every semester. Particularly in science-related lessons, nature trips should be organized to help students observe directly and solidify the theoretical knowledge learned in class. Collaboration with local authorities and signing protocols will help ensure the sustainability of these activities, overcoming transportation, and financial issues for SACs.

Teachers should be supported with in-service training to effectively plan and implement out-of-school learning activities. Administrative and bureaucratic assistance should be provided to teachers in organizing these activities. In this regard, the effective use of out-of-school learning environments should be strengthened through legislative arrangements by the Ministry of National Education, and teachers and school administrators should be encouraged to carry out these activities. Including more out-of-school learning activities in education councils or policy documents is believed to increase their usage in educational institutions.

Statement of Researchers

Researchers' contribution rate statement:
YD: Conceptualization, validation, methodology, writing-review and validation, original draft, data curation, supervision
ÇK: Investigation, data curation, writing-review and editing.
AY: Investigation, data curation, writing-review and editing.

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The authors declare that they have no conflict of interest.

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Ethical Considerations:
The Bursa Uludağ University Ethics Committee's Social and Human Sciences Ethics Committee's decision, No. 24, dated 22/03/2024, approved this research.

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