

Editors

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HANDBOOK ON LEARNING SPACE



PEDAGOGICAL
GUIDELINES
FOR EDUCATORS



[Text]



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CHAPTER 10

OUTDOOR LEARNING

Catarina VASQUES¹, Cristiana RIBEIRO², Cristina, MESQUITA¹

1.1. CONTEMPORARY SOCIETIES: BEHAVIORS AND RISKS

Since the second half of the 20th century, changes in the habits of the general population have been observed, namely regarding food and active behavior (M. Silva, Vettoretti, & Thomazello, 2010). The diet started to include foods with a higher sugar, fat and salt content. This change is associated with a sedentary lifestyle (with a reduction in physical activity among children and young people, with 80% of the adolescent population being insufficiently active) (Mackenzie, Son & Eitel, 2018). These factors have caused an increase in obesity in the entire population and children are no exception. About 60% of children are overweight or obese (Spenser & Wright, 2014; Ferreira, 2015; Mackenzie, Son & Eitel, 2018). Portugal stands out as one of the countries with the most cases of obesity in Europe, in which 31.6% of children are overweight and more than 13.9% are obese (Rito & Graça, 2015). by the American Academy of Pediatrics and the World Health Organization (Spenser & Wright, 2014; Ferreira, 2015) classify obesity as a 21st-century epidemic, as it is a public health problem. Ferreira (2015) highlights several changes that have occurred over time that have resulted in more inactive children, with less outdoor activity, in favor of children who spend more time indoors, with a high percentage of a sedentary lifestyle and increasingly eating habits. hypercaloric. Lopes and Neto (2014) refer that there has been a reduction in this type of mobility in the last decades in several countries, such as Portugal, England, Australia and New Zealand. They establish a relationship between this factor and urbanization that led to a change in sociocultural behaviour in most industrialized countries.

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The use of new technologies such as mobile phones, computers, and televisions has been shown to compete with active behaviour. The lack of security for pedestrians, adds to the concern with the exits of children to outdoor spaces. All of this results in a decrease in independent and free activities by the youngest. This type of space can favour the practice of physical activity (Mackenzie, Son & Eitel, 2018).

Highlighting the significance of outdoor spaces in countering sedentary behaviours, Ferreira (2015) emphasizes that these areas are frequently neglected. Daycare centres and kindergartens often consider outdoor spaces as "secondary," lacking appeal and failing to promote exploration, discovery, and a sense of mystery. They may even be regarded as unchallenging (Neto, 2005) and inadequate in terms of planning, with little attention given to the impact of space on children's free play activities (Almeida, 2005). Furthermore, the materials and equipment provided are often insufficient to stimulate children's actions and primarily consist of technologically inspired structures isolated amidst a smooth and synthetic floor (Herrington & Studtmann, 1998; Talbot & Frost, 1989), lacking coherence and meaningful functionality as perceived by the child (Ferreira, 2015, p. XVI). In this sense, he alludes to the importance of rethinking outdoor spaces, namely in educational establishments, as a way to solve some of the problems of the current times. Thus, he says that these spaces must be increasingly "diversified, stimulating, challenging, that incorporate natural elements and that invite movement and exploration", charming and mysterious spaces that provide the dream (Ferreira, 2015, p.xv). It also warns of the fact that the outside school spaces may replace the streets and backyards of old.

1.2. ADULT ROLE IN THE OUTDOOR SPACE ORGANIZATION

The adult has a very important role in the education and teaching of the child. In this specific case, educators, teachers, and operational assistants, as they are the ones who contact and plan learning moments with the children.

Before designing a space for children Loebach (2004) highlights three aspects: 1) we must study children's perception and interpretation of the environment; 2) followed by the effects of the physical environment on their behaviour and development; 3) accompanied the intentions behind their environmental interactions.

Adults, when it comes to outdoor spaces, can and should be active. Ferreira (2015) mentions that these must be planned to have character, that is, they must reflect coherently, and intentions focused on what is intended with him and to whom he is intended. They must also be challenging, making the child try to evolve. Oxfordshire (2008) adds that they should plan the space dedicated to children, thinking about their abilities, but also about their difficulties/limitations.

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It is part of the role of the educator or teacher to record the experiences, skills, knowledge, and attitudes that the children want to acquire or develop. Even before investing in equipment, there must be a deep reflection on what the child intends to do and acquire, focused on the group's difficulties, so that this is a space that helps promote changes and improvements (Oxfordshire, 2008; Ferreira, 2015).

A good strategy that can and should be used, and that guarantees the success of these spaces, is to ask the children, the actors of the spaces themselves, what they would like them to have and what kind of experiences they would enjoy doing. This strategy develops a sense of belonging in children (Oxfordshire, 2008).

Another role of adults in these spaces, and after their construction, is that of an attentive observer. It is in these natural environments, where children are uninhibited that they reveal their interests and difficulties. Thus, good ideas for projects and research to be carried out with children can emerge (Oxfordshire, 2008).

Another role of the teacher and educator is that of assessment. This should measure the connections between the elements or materials provided and the opportunities and actions created in them. In this sense, for example, it is up to you to reflect on how you can complex learning, when necessary, or even on the contrary, simplify. Which, in some situations, may lead to the need to change the characteristics of the space (Spenser & Wright, 2014).

Ferreira (2015) stresses the importance of continuous reflection on the part of adults. This reflection should focus on what has been provided to the child, outlining “strategies for change, using integrated, articulated and transdisciplinary initiatives, involving education and child support contexts.” (p.xv)

At levels of education from the 1st cycle of basic education, it is up to the teacher to plan classes outside doors. They can explore, for example, an outdoor science or biology class, where students will certainly engage with greater enthusiasm. For such an action to be successful, it needs to be very well planned, both in terms of objectives and activities and places to visit (Harris, 2017).

1.3. IMPORTANCE OF OUTDOOR SPACES

Throughout our development process, several factors help in motor growth and development, spaces participate in this role. In this sense, spaces must be well thought out and structured according to the needs and interests of the child. Spaces that provide the game in natural environments should be privileged.

The design of spaces, particularly in early childhood, can significantly impact a child's behaviour and contribute to their motor and intellectual development. The availability theory studied by environmental psychology

focuses on the opportunities that spaces, including the outdoors, provide (Acar, 2014).

Several studies highlight the importance of playing for children's development (Neto & Lopes, 2018; Acar, 2014, OPAL, 2018). Outdoor spaces at all levels of education provide this, opportunity to get out of the more formal educational context and play, contact with other children, and carry out activities designed by them in a more informal context (Acar, 2014, OPAL, 2018).

Concerning the physical impact of these spaces Spenser and Wright (2014), state that children who spend a large part of their time abroad have higher levels of development of their motor skills, even saying that they tend to be thinner, more active, with lower levels of stress and with a more resistant immune system. Ferreira (2015) also highlights the importance of these spaces for combating obesity.

Outdoor spaces have a very important impact not only on the child's motor development but also on their cognitive, social and emotional growth (OPAL, 2018, Harris, 2017; Lopes & Neto, 2014; Mackenzie, Son & Eitel, 2018). They promote adventure, observation and exploration, foster the arts, improving creativity and imagination. They stimulate social development, allowing contact and interaction with other children, different from themselves, both in terms of skills, as well as skills and development. They arouse interest in nature, promoting environmental education, developing knowledge about living things, the life cycle, the importance of the environment, and the impact of their actions on nature, among others (Acar, 2014). Spenser and Wright (2014) also refer to the value of these spaces in valuing and respecting oneself and others.

In this sense, OPAL (2018) refers that these spaces develop not only creativity and imagination but also cooperation, resistance, resilience and trust. All of this leads to lower levels of stress and higher levels of happiness.

One of the most effective strategies for developing learning is to learn by experimenting and doing. Outdoor spaces provide learning through action, and it is in this context that young children can develop more responsible behaviour and attitude about the environment. This learning makes perfect sense nowadays when environmental issues are increasingly important (Acar, 2014).

Regarding outdoor spaces in the development of more formal learning, the so-called out-of-doors classes, in contact with the environment, promote and develop creative problem-solving skills and increase critical thinking. Students find these classes motivating, refreshing, fun and exciting (Mackenzie, Son & Eitel, 2018). Completing these ideas, Oxfordshire (2008) stresses the need for adults to interact positively with children in outdoor spaces without cutting off their freedom and limiting their play.

1.4. OUTDOOR SPACE AND DEVELOPMENT OF SOCIAL COMPETENCE

The activities and actions undertaken by children in outdoor spaces are influenced by various factors such as the space itself, materials available, dimensions, and variety. Well-designed spaces play a significant role in influencing learning outcomes (Acar, 2014). When considering the structure and construction of outdoor spaces, several important aspects must be considered. Firstly, the materials introduced should offer diverse exploration and learning opportunities. Secondly, prioritizing contact with nature is essential, allowing children to listen, touch, see, and experience, thereby addressing their cognitive, emotional, and moral learning needs (Acar, 2014). Therefore, the inclusion of a wide range of materials becomes crucial, providing children with multiple options for play (Ferreira, 2015).

Additionally, careful planning should incorporate elements like light and shade, as well as safe and durable materials. Water fountains should be provided for hydration purposes. The variety of soil within these spaces should be encouraged, incorporating grass, sand, stones, mud, and water, among others, to enable children to experience different sensations through touch and movement. The presence of diverse living beings is also essential, ranging from plants (flowers, vegetables, etc.) to animals (ants, earthworms, and birds attracted by food feeders). Hedges, fences, small shrubs, or even repurposed items like old tires can be utilized to create defined areas or separate spaces (Oxfordshire, 2008). Furthermore, Spenser and Wright (2014) emphasize the importance of integrating trees, boulders, and trunks into the outdoor environment while varying the slope of the terrain. The construction of such spaces should prioritize the utilization of natural materials, such as plants, water, and sand. The inclusion of animals in these environments is also emphasized by Oxfordshire (2008), along with the introduction of resources like magnifying glasses and reference books to encourage observation and foster interpretation. These materials facilitate diverse interactions and learning experiences, which can be modified and reshaped (Acar, 2014). According to Ferreira (2015), open spaces with elements of nature are particularly favoured by children, and the author goes on to suggest that this connection with nature is a fundamental human need. Spenser and Wright (2014) emphasize that these areas must be clean, inviting, friendly, and appealing, with materials that are easy to transport and with their store. It also warns of the need for them to be safe. They also mention that there must be a balance between risk and challenge in a safe environment, where children have access to adventure, whether in the transposition of a trunk or the passage of a labyrinth (done in the grass or with strikes).

According to Helft (1988), a key researcher in child-space interaction, there are ten crucial categories in designing outdoor spaces: flat, slightly smooth

surfaces; smooth slopes; loose objects; fixed objects; fixed and non-rigid objects; scalable surfaces; openness (enabling movement and observing adjacent areas), later replaced by social aspects (linking environments with social activities); hiding places; moldable materials (earth, mud, sand); and water. These categories primarily cater to children aged 4 to 12 but can be easily adapted for younger age groups by including additional categories like rolling, crawling, and creeping (Ferreira, 2015). Table 1 presents a comprehensive assessment of outdoor spaces, showcasing the diverse possibilities within each category.

Table 1 – Possibilities of actions ordered by categories named by Helft (1988) (Ferreira, 2015, p.14).

Category	Actions that allow
1) Slightly smooth flat surfaces	-makes it possible to ride a bicycle - allows running - allows jumping / jumping - allows skateboarding / skating - makes it possible to play hopscotch - enables skiing - enables games (football, ice hockey, tennis, badminton)
2) Smooth slopes	- allows to slide / slide - allows skateboarding
3) Loose objects	-makes it possible to shoot and play - makes it possible to dig into the earth - makes it possible to build - makes it possible to play with animals - allows you to use plants in the game
4) Fixed objects	- allows you to jump over - makes it possible to jump above / below
5) Fixed and non-rigid objects	- makes it possible to swing - allows hanging
6) Scalable surfaces	- makes it possible to climb - allows you to see the landscape
7) Social (understanding how environments are linked to social activities)	- allows rule games - makes theater possible (pretend) - makes it possible to play at the houses and at war - makes noise possible - makes it possible to help with the tasks of adults

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8) Hideouts and refuges	- makes it possible to hide - makes it possible to be alone
9) Moldable materials (earth, mud, sand, among others)	- allows you to shape anything - enables snow construction
10) Water	- makes swimming possible - makes it possible to fish - makes it possible to play in the water

In a more detailed way, we will now give examples of some areas that can be introduced in outdoor spaces, according to Oxfordshire (2008):

Climbing area:

An area that can be made up of climbing structures or walls. objects such as ladders, tires, tunnels, and planks that offer a physical challenge to children can also be incorporated.

Spenser and Wright (2014) also suggest the use of materials designated as anchored game equipment. In this sense, they launch other ideas such as the introduction of rocking toys such as the swing, slides, springs and balancing beams (which can be made with logs) and smooth stones to balance the passage from one to the other. In this way, the development of stability, balance, turning, stopping, bending and weight transfer skills will be promoted. These authors mention the importance of having trees in this area so that children can climb and thus learn to measure the capacities associated with risks.

Quiet and secret areas:

Not all children are looking for a moment to run and talk in the outdoor space, some of them are looking for a calmer moment, where they can distance themselves from noise and more energetic actions. This space can be provided for example by a small tent or hut, with a blanket and pillows to provide a more welcoming environment.

Space to use wheeled vehicles:

The creation of an area for the use of vehicles can be an excellent opportunity to work on road safety. Making a specific space for this, with traffic signs, traffic lights, crosswalks, parking lots and many others, will make children learn, and practice, essential safety knowledge for their day-to-day.

The inclusion of tricycles, scooters and wagons allows the exploration of different speeds, the negotiation of different routes and the cooperation between children (Spenser and Wright, 2014). The addition of paths with a slight inclination can also bring added challenges, being convenient for the use of safety equipment (helmets, jewellers, etc.).

Space to develop new skills:

This area is designed to experience motor skills that children have not yet "consolidated". Serving to perfect those same skills or simply to explore them. In this space, children can, among many other things, run, crawl, shoot, catch and roll. Some practical examples may be, the game of target shooting, throwing the cans down, hitting the bows on the pins and bowling.

Spencer and Wright (2014) call this area an open space, multipurpose. They add the use of other materials such as ropes for jumping and balls for shooting and kicking.

Space with sand:

Another material that does not always exist in outdoor spaces and, when it does exist, is not always used are sandboxes. We know that these spaces cause some dirt in children that is not always well accepted by parents.

They are excellent spaces for contact with nature, where your imagination can work and produce fantastic excavations and constructions. When explored by a group of children, these spaces develop great cooperation and social dynamics.

Spencer and Wright (2014) highlight the strong interaction between peers provided by these spaces and highlight the accessibility of this area to children with special physical needs, through the construction of an elevated bench.

Water space:

Children love to play with water, and they are rarely allowed to. Place a hose or tap outside, with tubes and containers that can be filled and transported with water. Vary in the diversity of materials, and recyclable materials can always be used, such as milk packages, bottles, bowls, and buckets. Here children can compare measures or even be responsible for watering some plants and food grown in this outdoor space. If they want to prevent children from getting wet, place materials such as rain boots and raincoats at their disposal.

In the warmer seasons, water games can be played, such as water balloon war.

Spencer and Wright (2014) indicate pools and water slides as good materials to enrich this area. They add some knowledge that children can acquire, such as the materials that float or do not float and the materials that move more quickly under running water. They also mention the possibility of moving the water to other areas such as sand and the natural area. It alerts us once again to safety issues, where we must pay attention to the height of the water and its cleanliness.

Natural areas and areas for planting:

This is a space of pure contact with nature and learning about biodiversity. You can use a flower bed or, when there is no land available, create a space with tires full of soil, pots or baskets to grow some food and other plants. The most interesting thing would be to be able to do everything related to cultivation, such as using the vermicomposting technique, digging and treating the soil, planting,

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watering, caring and harvesting. Provide a space where they can contact the mud. Provide boots, gardening materials and all necessary equipment.

Spencer and Wright (2014) also emphasize the importance of providing children with an understanding of the life cycle of plants, they can eat homemade and healthy products and, these spaces, still provide them with an extra beauty to the outside. They reflect on the textures and smells of different flowers, herbs, plants and food products that children have the opportunity to experience when grown. They emphasize this space as a good opportunity to involve the rest of the school community and the family.

Space to build and be creative:

An area composed of various materials such as milk cartons, old tires, trays, cardboard boxes of different sizes, hollow wooden blocks and many others so that children can build.

Painting materials such as paints, paint rollers, chalk of different sizes, blackboards, brushes, gouaches, pencils, markers, pens and others can be provided so that children can create art. These materials when placed on carts are easily moved.

Collections of different types can be created here, for example, stones, leaves, sticks and shells.

Still in this space, you can make sound compositions with different instruments that do not necessarily have to be conventional ones. Experiencing sounds with pots, texts, trays, bowls, and other objects makes children creative.

Spencer and Wright (2014) suggest that this space can be divided into distinct areas. One such area is the music and movement zone, which incorporates acoustic play and encourages the use of affordable musical instruments. They provide examples such as repurposing aluminium trash can lids as percussive surfaces or utilizing large barrels as drums. Additionally, they highlight the importance of a separate area dedicated to loose pieces. Focused on constructions, this area includes, besides those objects already mentioned by the author, pinecones, trunks, and branches. Children explore natural elements and, with their creativity, develop constructions. Another area will be playing with houses and other structures. These authors add the importance of playhouses for socialization, language development, creativity, and motor skills. Objects that can be transformed into a car, train, plane or ship must be included.

Spencer and Wright (2014) refer to an area dedicated to the arts and creativity that they believe can fit into this space. Enriched with a stage that can be built for example with pallets, seats created by latches of trees, with several books where children can get ideas. This space is for children to create artistic performances and present to colleagues.

1.5. CHARACTERISTICS OF OUTDOOR SPACES AND DEVELOPMENT OF SOCIAL SKILLS

The outdoor spaces for children are transversal to ethnic groups, age groups, genders, and levels of development. They must function as spaces of acceptance, adapted to all children, where they feel accepted and at ease to explore the space freely.

We don't always hear the best news about outdoor spaces. Often, especially at older ages, this is where most cases of bullying occur. In this sense, once again the importance of being well-planned and supervised by adults is reinforced (Kantz, 2004).

The outdoor spaces provide great moments of empathy and socialization. According to Ames (2004), these spaces are an excellent source of interaction, where pairs and small groups play freely and thus develop very important social skills. Children support each other, for example when someone gets hurt (OPAL, 2018). Spencer and Wright (2014) agree with these ideas, adding that when these spaces are well thought out, and planned as an extension of the classroom or activity room, a social environment is created in which children feel accepted and respected, also accepting the other more easily. Veiga et al. (2016, 2017) mention the importance of this social game, mentioning that it provides the development of social skills such as welcoming others, negotiating and accepting their losses.

This type of space develops a very important competence, which is emotional intelligence. It is by playing, listening, talking, sharing, and discussing with others that the child recognizes emotions in himself and others, as well as learns to regulate and control some emotions. Children learn to express emotions adaptively. These emotional skills have a very strong relationship with social skills, when there is a satisfactory level of emotional development, social skills tend to be positive. This is because, for example, when you can read by the behaviours and features that a certain game is not being well accepted by the other, there is a possibility to stop such interaction and start with a more positive one, avoiding conflicts and preserving good social relations. Thus, children understand and accept that other children may have different tastes, intentions, desires, and beliefs than their own. They are also able to control their levels of arousal which, in excess, can be harmful to you and your relationships. (Veiga, et al., 2017).

Once again, we emphasize that for all this to happen positively, adults have an essential role, both in planning and executing spaces and in observing, cooperating, interacting, and evaluating.

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