



Outdoor play as a mean to achieve educational goals - a case study in a Portuguese day-care group

Gabriela Bento & Jorge Adelino Costa

To cite this article: Gabriela Bento & Jorge Adelino Costa (2018) Outdoor play as a mean to achieve educational goals - a case study in a Portuguese day-care group, Journal of Adventure Education and Outdoor Learning, 18:4, 289-302, DOI: [10.1080/14729679.2018.1443483](https://doi.org/10.1080/14729679.2018.1443483)

To link to this article: <https://doi.org/10.1080/14729679.2018.1443483>



Published online: 24 Feb 2018.



Submit your article to this journal [↗](#)



Article views: 340



View Crossmark data [↗](#)



Outdoor play as a mean to achieve educational goals - a case study in a Portuguese day-care group

Gabriela Bento  and Jorge Adelino Costa 

Department of Education and Psychology, CIDTFF, University of Aveiro, Aveiro, Portugal

ABSTRACT

This study aims to explore the pedagogical potential of outdoor play situations, considering the educational goals established in the Portuguese Pedagogical Guidelines for 0–3-year-old children (ongoing work), namely development of a sense of security and positive self-esteem; development of curiosity and exploratory impetus; and development of social and communication skills. Following a qualitative methodology, during a period of 9 months, the outdoor play experiences of 14 children from a day-care centre were observed and monitored and the professionals were interviewed. The data shows that outdoor experiences can contribute to the achievement of the educational goals, enlarging opportunities for creative play, problem solving, experimentation, inquiry, dialogues and collaboration. The achievement of the educational goals is facilitated through supportive and positive relationships with adults and peers, provision for proper equipment, and contact with nature. This study offers a deep insight into how educational policies can be put into practice in the outdoor area.

KEYWORDS

Outdoor play; young children; educational policies; day-care

Introduction

The vital role of play for children's learning and development is strongly supported in education and psychology literature (Macintyre, 2001; Moyles, 1989, 1994; Pellegrini, Dupuis, & Smith, 2007). Play serves as a developmental strategy to respond to a period of immaturity and need for protection, allowing for opportunities to interact with different stimulus and learn by trials and errors (Pellegrini et al., 2007). As a natural and self-directed activity, play promotes cognitive, physical, social and emotional well-being, offering the necessary conditions for children to overcome personal barriers and evolve in skills and knowledge (Ginsburg, 2007; Vygotsky, 1976).

The importance of play for development is associated with the need to assure the time and space for quality play experiences to emerge (Moyles, 1989). Spaces for children's participation and interaction should be carefully planned and organised, ensuring conditions for individual expression, autonomy and sense of security (Macintyre, 2001). Although children can play and participate in different environments (e.g. home, neighbourhood, day-care centres, preschools, schools), in this article special attention is given to the outdoor area of educational settings. Going one step further on previous research about the influence of outdoor play for learning and development (Canning, 2010; Fjortoft, 2004; Maynard, Waters, & Clement, 2013; McClain & Vandermaas-Peeler, 2015; Stephenson, 2002; Waller, 2007), this study explores the possible pedagogical outcomes for under threes playing outside, trying to counteract the lack of studies related to this age group (Bilton, Bento, & Dias, 2017). Recently, in Portugal, there has been a political investment in zero to

three education and official guidelines are being conceived to support childcare practices. The Portuguese Pedagogical Guidelines for working with 0–3-year-old children (PG 0–3; Portugal, Carvalho, & Bento, n.d) establish three educational goals assembling the most important developmental milestones and learning skills that young children should have developed by the age of three, namely: development of a sense of security and positive self-esteem; development of curiosity and exploratory impetus; development of social and communication skills. In this study, the outdoor play experiences lived by a group of under threes are analysed through the lens of the PG 0–3 educational goals, aiming to obtain empirical data that can sustain the implementation of educational policies through pedagogical practices based on outdoor activities.

The theoretical framework of our study takes into consideration the benefits of outdoor play and the possible gap between recommendations or educational policies and practices.

Benefits of outdoor play

To promote outdoor learning it is important to consider different factors that are complex and intrinsically connected. Waite and Pratt (2011) proposed a relational model for outdoor learning that evokes the interaction of three key dimensions—child, others and space. According to this model, as children explore the space, their actions will progressively affect the environment. The child does not merely react to space but is capable of transforming it or using different elements according to his/her needs and interests. Simultaneously, the main features of the space influence the action possibilities of children, creating obstacles or opportunities for play. Also, teachers, family members and other children's attitudes towards outdoor play will have an impact in how space is perceived and explored, considering that the child is not indifferent to what others do, say or think. At a macro level, a set of cultural norms, expectations, broad national guidelines, and standards also affect the outdoor learning experiences (Humberstone & Stan, 2011).

Acknowledging this intricate framework, we will highlight specific features of the outdoor environment that have an impact on the type of experiences that can emerge during outdoor play.

Stephenson (2002) identifies the outdoors as a constantly changing space, where variations in temperature, light, movement, colour, smell, texture etc. stimulate play. The sense of unpredictability and freedom create an environment where children can have an active role in learning, without feeling pressured to achieve a specific product or outcome. As Waite (2010) states, outside, children can acquire rich and complex information about phenomena through firsthand experience. Instead of learning through verbal, written or audio descriptions, transmitted by adults, the child has the possibility to directly experience situations, building knowledge based on real events. In fact, during outdoor play, it is possible to adopt more flexible teaching strategies that may stimulate children's autonomy and participation (Stephenson, 2002; Waller, 2007; Waters & Maynard, 2010). In the study of Maynard, Waters and Clements (2013), teachers used outdoor play time to observe, interact and obtain important information about each child's needs and interests, developing a different perspective about children's achievements. Teachers recognised that during outdoor play, children were less pressured to respond and act accordingly to performance expectations, being able to show skills and knowledge rarely observed inside the classroom.

Furthermore, the diversity of experiences related to outdoor play can contribute to the physical, cognitive, social and emotional development of children. Fjortoft's studies (2001, 2004) indicate that children can improve motor skills (e.g. balance and coordination) through play in natural environments. Outdoors, it is possible to deal with challenges and learn about risks, gaining a deeper knowledge of personal limits and abilities (Little & Eager, 2010; Tovey, 2007). Regarding cognitive and social development, communication skills can be promoted as children try to understand and share their discoveries. In Waters and Maynard's research (2010), the characteristics of the space and the adults' ability to tune with children supported sustained shared thinking, during which teachers were able to gain a deeper insight about children's views and interests. Further, research shows that peer interaction and cooperation can be stimulated outside, as children lean on each other to

overcome challenges and engage in imaginative and creative play (Canning, 2010; Li, Hestenes, & Wang, 2016; McClain & Vandermaas-Peeler, 2015). Play in green outdoor environments can also promote children's attention restoration, allowing for better learning conditions as they move from the outdoor area to more formal contexts (Mårtensson et al., 2009).

The role of outdoors in educational settings—from politics to practice

Considering the state of art presented in the previous section, it is understandable that outdoor play experiences should be integrated into educational politics, pedagogical guidelines and practices. In fact, the early childhood curriculum guidelines recognise the outdoor environment as an educational area that should be planned with the same attention and rigour given to the indoor area. Children should have the opportunity to explore natural elements and develop physical activities, in a space that has been carefully organised by the adult (Portuguese Ministry of Education, 2016). However, the connection between guidelines and educational practices is not always clear, a gap exists between official guidelines, speeches and actions (Bento, 2012; Bento & Portugal, 2016; Figueiredo, 2015). The educational practices seem too focused on what happens inside the classroom and children tend not to go outside as often as they could. Outdoor play is often interpreted as a time to 'let off steam', without considering the learning experiences that can emerge (Bento & Portugal, 2016; Figueiredo, 2015). Similar contradictions between policy and practice can be found in other countries, relating to the teachers' difficulties to promote learning experiences outside the classroom that go beyond a content-based approach (Kernan & Devine, 2010; Maynard & Waters, 2007).

The current study

Main goal

Recognising the difficulties related to the concretisation of official guidelines in daily practices, this study intends to explore the possible articulation between the educational goals for under threes and the opportunities offered by the outdoor environment, showing how such experiences may contribute to educational outcomes. We aim to identify pedagogical benefits favouring the accomplishment of the three goals established in PG 0–3 (development of a sense of security and positive self-esteem; development of curiosity and exploratory impetus; development of social and communicational skills) and gain a deeper understanding about factors that contribute to positive outdoor play experiences in educational settings.

The setting and subjects

This article refers to a case study with a group of 14 children and the responsible adults, from a Portuguese day-care centre. The setting is situated in a semi-urban area in the centre of Portugal. It is a small private institution that benefits from the financial support of the government (families pay according to their incomes). The setting accepts children from day-care to preschool (between 4 months and 6 years old) and has an after-school service for children already attending school (from 6–10 years old). On average, the setting caters for 150 children, from different social and economic backgrounds.

The setting was selected for its specific characteristics. Outdoor practices were valued and promoted, so it was possible to observe children playing outside. The outdoor environment was used daily, in different weather conditions (except with rain), and for long periods of time (3 h per day, morning and afternoon).

The outdoor area was equipped with structures for physical activity (e.g. slides, swings and climbing frames), loose materials (e.g. kitchen supplies, wooden blocks) and places for hiding. Different natural elements were present and available for children to explore, and the area was kept clean and safe.

The children who participated in this study were 2 and 3 years old (nine boys and five girls) and attended the day-care centre full time, for 5 days a week. Most of them entered the setting with few months old, so they were very accustomed to the outdoor area. The two practitioners (an early childhood teacher and an educational helper) responsible for the group were both women and had a long experience in early childhood education. They had worked in the setting for more than 10 years and were members of the local community.

Ethical considerations

In the first stage of the data collection process, the study was explained to the different parties involved (professionals, parents, children) and consent forms were collected (parents gave permission as children's legal representatives). The early childhood teacher presented the researcher to the children and together they explained the study and talked to the group about what was going to happen (e.g. frequent visits of the researcher to the setting). To establish a relationship of trust and familiarity with the children, during the first weeks of interaction no data was collected. In addition, the researcher showed awareness and concern about the need to guarantee that the participants were comfortable with the research throughout the process, offering extra information whenever it was required. The identities of children, families and professionals were kept confidential (fiction names were adopted).

Data collection and analysis

Over a period of 9 months (October 2014–June 2015), children's outdoor play experiences were monitored through observation records and interviews with the professionals responsible for the group.

The professionals were highly involved in the process of data collection, taking an active role in monitoring and recording the most important episodes outside. When the children went outside, the researcher (or the early childhood teacher, if the researcher was not present) developed detailed descriptions about what had happened, using an observation grid focused on aspects related to children's actions and interests, adult's intervention and problems or difficulties related to going out.

The involvement of the professionals in the data collection process was a weighted decision, considering main advantages and disadvantages. From a positive perspective, the direct participation of the professionals (mainly the early childhood teacher) allowed for a deeper insight into the pedagogical practices. Since the researcher was not able to attend the setting every day and it was important to gather as much data as possible about daily experiences, the professionals' collaboration made it possible to achieve the desired goal. The early childhood teacher had a practical knowledge about how the outdoor worked as a learning environment and how it influenced children's development, so she could use this knowledge to interpret the experiences and give a unique perspective to the study. Also, it was important to the researcher to make the study useful and meaningful, creating a 'win-win' situation, in which professionals could benefit from the data collection process to progressively improve their practices and develop action-research skills. The professionals and the researcher analyzed and discussed the data together, exchanging opinions and ideas about how the outdoor environment was working for children and what could be done to improve play experiences. Recognising the professionals as key elements to the accomplishment of the study goals facilitated their will to cooperate and created a friendly atmosphere during the data collection process. From a negative perspective, we have to accept the possibility of some bias in the observation records linked to the tendency to please the researcher in achieving the study goals. Likewise, the reduce familiarity and lack of training of the professionals in using an observation grid to monitor children's outdoor play might have interfered with the data. To overcome this problem, all records were discussed with the researcher and, sometimes, the

researcher observations were made with the help of the teacher. This strategy created a shared line of thought between the two observers and allowed for the validation of the information through inter-observer agreement. In fact, we did not find any systematic differences between the professional and researcher's observations, meaning that the same approach was adopted in data collection process. Another possible threat to the involvement of the professionals was the interpretation of the research as additional work in their busy schedule. To prevent this from happening, the researcher tried to adapt the data collection process to the routines and procedures that were followed in the educational setting.

The interviews were conducted separately from the co-analysis of the observation data with the professionals and aimed to understand how the teacher and the educational helper perceived the outdoor play experiences and what advantages and obstacles related to outdoor educational practices were identified. A total of three interviews were made with each professional, in the beginning, middle and end of the research.

The data collected through observations and interviews were submitted to a process of content analysis, using a software for qualitative data (WebQDA). The analysis method followed three main steps:

- (1) Data collected was read carefully to gain a broad perspective of information.
- (2) Predetermined categories related to the research aims were used to do a preliminary analysis of the data. The three educational goals established in the PG 0–3 (development of a sense of security and positive self-esteem; development of curiosity and exploratory impetus; development of social and communication skills) were used as main categories and another category related to 'opportunities and difficulties in outdoor play practices' was created. The pedagogical benefits were analysed according to the descriptions provided in the PG 0–3. The development of a sense of security and positive self-esteem relates to children's well-being and sense of belonging towards the natural and social world, opportunities for the acquisition of a growing control over the body and feelings of trustworthiness and competency. The development of curiosity and exploratory impetus refers to opportunities to understand and explore the world, others, and objects, using different materials and strategies. In this scope, opportunities to face challenges and solve problems, and engaging body, mind and senses, are associated with the feelings of pleasure and motivation towards learning. The development of social and communication skills can be achieved through quality interactions, during which the child can communicate using verbal and nonverbal expressions and engage in moments of cooperation and sharing with others.
- (3) The information included in each category was again analysed in detail, to identify recurring situations, missing cases and unpredictable dimensions. From this third step, new categories emerged and were used to interpret the data.

The decision to adopt the educational goals as predetermined categories aimed to facilitate the data treatment and the pursuit of the research goal. Although we do not ignore that learning occurs in an integrated and holistic form and the achievement of the educational goals is a continuous process during which the acquisition of skills depends on a variety of factors, such as the type of experiences that the child has access to and the individual rhythms of development. Following this line of thought, it is important to clarify that this research did not aim either to understand how one particular child or group of children reacted to the outdoor experiences or to assess individual learning in the outdoors. The focus was on the experience itself and its perceived potential to contribute to the achievement of the PG 0–3 educational goals.

Main findings

The data collected from the observations and interviews with the professionals allowed for the identification of outdoor play situations that can contribute to the accomplishment of educational

goals. The main findings will be presented in relation to each goal and to current international research. Some extracts of the observations were chosen as examples to support the data analysis. In each extract, it is possible to identify the person who recorded the situation ('R' for researcher and 'ECT' for early childhood teacher) and the date when it occurred.

Development of a sense of security and positive self-esteem

The analysis of children's experiences shows that during outdoor play emotional indicators related to well-being emerged, such as enthusiasm, satisfaction, vitality and pleasure. Professionals' opinions expressed in the interviews are consistent with the situations observed, perceiving higher levels of well-being in children during outdoor play. In the view of the professionals, the open space gave the children the possibility to decide what they wanted to do and how without having to run into each other. Professionals referred that feelings of freedom and relaxation not only had an impact on children but also on adults' attitudes, facilitating their involvement in play. In the examples presented, well-being arises from the exploration of natural elements and is expressed through expansive movements and verbal expressions of satisfaction.

The two boys laugh as they carried the sticks and wave them in the air. Tomé's joy was evident by the way he used his body and voice, running from one place to another and saying words difficult to understand (R, 12-03-2015).

As Tomé played with water in the river, getting wet from all the splashes made with his body, he repeatedly said: 'I like it! I like it!' (R. 3.06.2015).

However, it is important to mention that in some situations children struggle to adapt and feel comfortable outside. In the following example, the adult's support stands out as an important condition to assure children's well-being.

The younger children in the group were a bit insecure outside. They showed some difficulties in walking, due to the uneven ground and they hardly explored the space autonomously. Sometimes, when they fell or the adult moved away, they cried or called for the adults' attention (R, 16-10-2014).

On more than one occasion, the teacher reported concerns with the way some children reacted and engaged in outdoor play, referring to the need of identifying each child's interests as a demanding and never-ending task that was crucial to promote their well-being. The observed situations follow Seland and Sandseter's findings (2015), in which well-being is associated with the quality of social relations between adults and children (e.g. warm, responsive, close) and the type of opportunities for play (e.g. freedom to explore alone or with others, resolve problems independently).

Opportunities for the development of a sense of security and positive self-esteem were similarly present in situations that created the possibility to connect with and be surprised by the natural world. Children's interest in different phenomena instigated attitudes of care and respect towards animals and plants.

Laura found a snail and showed an emphatic attitude towards the small animal: 'You don't need to cry, I'm not going to hurt you'—she said (R, 08-04-2015).

When we call the children to return to the classroom the sun was already setting. Sancho called me and said: 'Look, Renata, the sun is so beautiful!' (ECT, 11-12-2014).

In line with what is suggested by other studies (Broom, 2017; Collado, Staats, & Corraliza, 2013), positive experiences related to nature might contribute to the development of an environmental consciousness and positive attitudes towards the environment.

Likewise, the possibility to play outside on a regular basis might have stimulated a sense of identity and belonging to the space, since children spontaneously gave names to specific areas in the garden related to the activities they most enjoyed doing (e.g. the old greenhouse was called mud house, since children often played with soil and water there). Similar findings regarding

children's growing knowledge and familiarity about the space were found in Waller's work (2006, 2007), in which the outdoors is described as a facilitator environment to children's participation. Through outdoor play, children can show how they interpret and assign meaning to the world, acting as co-constructors of knowledge alongside with adults.

In addition, children went outside the setting for small walks in the community, playing in different areas and talking to people they encountered. The teacher identified those moments as valuable for children to explore local traditions and spaces, a vision that relates to Kernan's (2010) perspective about considering the need for belonging as a human need and right, to which strongly contribute opportunities to explore and interact with a range of social, physical and cultural spaces.

During our walks, it is interesting to notice how some children already know the way and take initiative in going by themselves (without holding hands) as they enter the paths without traffic. Their level of confidence is visible in the way they move and how they keep a distance from the adult (ECT, 11-03-2015).

The development of a sense of security and positive self-esteem also refers to children's confidence and growing control over the body. In this regard, different situations were observed, especially related to overcoming physical obstacles or challenges. During outdoor play, children show an ability to explore the space with increased complexity, looking for challenges suitable to their level of development. In the following example, self-confidence and control over the body appear as interconnected dimensions. To climb the ramp, motor skills were important but wouldn't have been enough if children didn't have the necessary motivation and confidence to overcome the fear or anxiety created by the risky situation.

The children climbed the ramp for the first time and they observed the view from that higher level. To get to the top, Renata [teacher] gave some support and stayed near the children while they were there. In this task, children showed a growing control over their body, being able to find balance and coordination between hands and feet. Laura climbed without any help, carefully planning each move. The risk was present in this situation, demanding an evaluation from children and adults (R, 18-11-2014).

In fact, the possibility to face and manage risks was an important dimension that characterised outdoor play situations in this study. Initially, the teacher highlighted safety issues as a possible problem, but as children showed themselves progressively capable to assess risks, adults felt calmer and more tolerant about this type of play. In Waller's study (2007) safety concerns were also minimised as the children and adults became more confident outside, allowing for more quality interactions (prolonged conversations and 'sustained shared thinking'). Risky play has a positive influence in children's confidence and self-esteem; promotes physical, cognitive and emotional development; and instigates attitudes of entrepreneurship, persistence and willingness to learn (Bundy et al., 2009; Little & Eager, 2010; Sandseter, 2009; Tovey, 2007).

Further, the less controlled and unpredictable nature of the outdoor environment instigated the development of children's autonomy. Outside, children did not depend entirely on the adult to solve problems, leaning on peers' help and individual skills to overcome obstacles. As Waite, Rogers, and Evans (2013) refer, it is important to allow children space to try out different ways of being, without neglecting the need to guarantee emotional balance and healthy patterns of interaction. Children's autonomy during play surprised the educational helper, who stated that it was unexpected for her to see the children showing an ability to respect each other's space and develop an organised play, without the adults' intervention. Also, children were pleased to participate in activities related to maintaining the space and getting themselves prepared to go in and out of the classroom (e.g. putting on rubber boots, taking out the waterproof suits).

The children's autonomy is growing and, in the farm, this is particularly noticeable. Vera and Laura went to the bathroom alone and took off their diapers (R., 21-10-2014).

Development of curiosity and exploratory impetus

In the outdoors, the desire to discover, learn and experiment was strongly expressed in children's actions, possibly due to the diversity of stimulus and challenges that emerged. Through the analysis of children's play experiences, it was possible to identify five main elements towards which curiosity and the exploratory impetus were directed: water, soil/sand, plants, animals and loose materials. In most situations, these elements were used simultaneously in children's play, enriching learning possibilities.

The exploration of natural elements and loose materials facilitated opportunities for imagination, creativity, divergent thinking and problems solving, corroborating the results found in other studies (Bundy et al., 2011; Canning, 2010; Kuh, Ponte, & Chau, 2014; Maxwell, Mitchell, & Evans, 2008).

To use the climbing wall, children showed a resourceful attitude. To access the first brackets more easily, they placed a rack next to the structure and used it as a step. In that way, they could easily reach the higher brackets (ECT, 10-02-2015).

In the example presented, it is possible to identify children's motivation to overcome obstacles as they observe the reality, established strategies, and chose among different options the best way to proceed to reach the desired goals. As they learned by trial and error, they dealt with feelings of failure and frustration until they achieved success.

Also, children had the opportunity to experience concepts related to the physical world (e.g. gravity, velocity, strength, distance, sound, temperature). Animals, plants and natural phenomena captivated children's interest and attention and, in these situations, it was possible to observe children's effort to better understand the reality, as they asked several questions, experimented and activated different senses.

Renata [teacher] drew children's attention to the ice marks in the vegetation. Children watched and touched the ice, asking if it was snow. When she explained that it was frost, Nuno said it was 'the water from the sky' (R, 26-01-2015).

Nuno was very concentrated playing in the river. He dropped a leaf on the water and follow it along the stream, picking up the leaf a few meters ahead. He repeated this action several times, without being disturbed by the euphoria of his friends. Later, we talked about fluctuation (ECT, 3-06-2015).

Opportunities for mathematical thinking were observed, as children explore notions related to quantity, weight, size and volume. The situation presented next represents one of those moments.

Some boys started to pour little pieces of brick into a basin. They filled small containers with the pieces of brick and they poured everything into the basin. They were satisfied with the noise produced by their action and felt challenged to collect more pieces. In this situation, David recognised that they were gathering a great amount and said that from that point further, they could only choose the smaller pieces (R, 18-11-2014).

Experiences focused on the exploration of animals and plants were also frequently observed. The diversity of natural life triggered children's interest and lead to attitudes of observation and inquiry. The need to find answers to questions regarding the why, how and when of things was noticeable since many situations were being experienced for the first time. In the opinion of the early childhood teacher, those moments offered children the possibility to 'think with their hands', providing meaningful learning opportunities. The study of Ballantyne and Packer (2009) sustain the importance of hands-on experience, showing how the possibility to observe, explore and experiment can lead to enduring and significant knowledge.

As I talked to the other teachers I realised that a dead bird had been found in the garden. Being sure about the interest of that discovery for the children, I went inside to get rubber gloves, several wooden spatulas and tweezers, so that the children could explore the bird safely. I put the bird on a log and the children surrounded it so they could better see the animal. As they started to observe the bird, different questions emerged: 'Are these feathers?'; 'To fly?'. As I replied to the children's questions, they repeated the answer several times. Amelia asked if the bird was hurt, possibly thinking about a conversation that we had a few days before. Nuno asked: 'why did the bird

die?'. (...) With the help of tweezers, I opened the bird's beak and showed the tongue. After, I also showed the eyes and the children were able to see its shininess. The children were very still and speechless (ECT, 7-05-2015).

In the example presented, it is possible to identify the mobilisation of cognitive strategies of assimilation and information treatment, such as repeating out loud what is transmitted and the association with other past experiences. Through a confrontation with different phenomena (e.g. life cycle, atmospheric conditions), children can explore relationships of causality, similarity, and difference, developing and testing knowledge about reality. This process of collecting, analysing and interpreting information, still in an early stage of maturation, can be associated to the development of a questioning and critical attitude, fundamental to scientific thinking (Gompertz, Hincks, & Knight, 2011).

Development of social and communicational skills

The data analysis allowed for the identification of situations that might influence the development of social and communication skills. Opportunities for close interaction between children, during which they shared ideas and cooperated to accomplish common goals were identified, as the following example shows.

In teamwork, children transported a log from one place to another, mobilizing motor and negotiation skills whenever it was necessary to decide where the log should go. Carrying the log and sometimes dropping it, made the children laugh, especially Tomé and Carlos, who were very involved in this task (other children also participated, but more intermittently). Children tried to put the log between the branches of a tree, which required a lot of coordination (...). The log also served as an obstacle to jump over, an activity in which Nuno stood out, able to jump over the log with both feet simultaneously (R, 30-03-2015).

Furthermore, children showed a growing ability to recognise feelings and needs of others, developing efforts to promote their friends' well-being and involvement. The positive experiences among peers may influence the development of attitudes of empathy and respect.

Throughout the morning, Tomé was very cooperative and empathetic with other children. He gave away materials, encouraged them to play and was very pleased when other boys became involved in his games. When Lourenço arrived and didn't want to leave his parents, Tomé immediately gave him a plastic box, so he could join the group in muddy play (R, 26-01-2015).

In line with these observations, both professionals reported positive outcomes concerning children's ability to cooperate and play together. In the professional's opinion, during the time spent outside fewer conflicts occurred and the adults' intervention to solve problems was less needed compared to the experiences inside the classroom.

In the study of McClain and Vandermaas-Peeler (2015) similar results were found. The possibility to face challenges in natural environments promoted rich social experiences between children. As they gain confidence in the outdoor space, collaborative behaviours emerged and more skilful peers were available to help others with difficulties.

In addition to the opportunities for interaction among peers, outdoor play experiences promoted quality relationships between children and adults. The early childhood teacher reported that during the time spent outside she felt more calm and responsive. Professionals' involvement in children's play was frequently observed and children seemed to appreciate and enjoy adult's participation. The adults were happy about being outside and they were open to the suggestions and initiatives of children. In previous research, similar findings were found (Maynard et al., 2013; Waller, 2007), reinforcing the possible contribution of outdoor play to promote more effective and supportive relationships.

Likewise, the experiences lived outside stimulated communication. Opportunities for language development (e.g. acquisition of new vocabulary and growing control of communication skills) were particularly evident during the walks in the local community since children had the opportunity to interact with different people, spaces and information.

As we walked along the village, I saw a dead hedgehog on the road. I gathered the children to show what I had discovered. As soon as they realized that an animal was lying there they kept silent and watched closely. I said that a car probably killed the hedgehog when he tried to cross the road. (...) After a conversation about the animal, we continued walking and children started to call for our attention for all the animals they saw: little birds in the trees and on the roofs, dogs in gardens, etc. (...) On our way back, we passed by the dead hedgehog and Laura explained to the children what had happened (repeating what we had told her before): 'It was walking on the road. A car came and passed over. Now it has no eyes! Dead. It can't walk anymore' (ECT, 27-01-2015).

Apart from opportunities to develop oral language, it was possible to observe situations that evolved the exploration of writing codes. Through play, children started to show interest in representing the letters of their names and to be able to recognise familiar words.

Vera, Sancho, Tomé and Manuel 'wrote' on the blackboard [available outside for children to use freely], using paint brushes and water. Sancho made the letter of his name and called me to see. Vera and Tomé also tried to represent their first letters, but they weren't as successful as Sancho. However, when I wrote 'V', 'T' and 'M', children identified the letters and matched them to each child's name (R, 11-12-2014).

The professionals were very surprised with the children's interest in letters. In fact, the educational helper stated that she never thought children, at such a young age, could use simple stimulus, like water or sticks, to represent letters. That episode helped her to understand the learning potential of outdoor play.

Moreover, the different materials available in the outdoor area facilitated other forms of expression, related to art and music. Opportunities such as painting with mud or exploring the sounds of objects were observed, justifying Tovey's (2007) argument about the potential of the outdoor space to promote activities that are not viable inside the classroom.

In the garden, the tunnel was once again the major attraction for children. Several times they went in and out of the tunnel, splashing in the muddy ground. Sancho's play stood out as he touched the white walls of the tunnel with his hands covered with mud. He seemed intrigued by the effect that the mud produced in the walls. Stimulated by Renata, he repeated that action several times, looking fascinated by that sensorial experience (R, 24-11-2014).

Discussion and future considerations

Following the previous research, this study reinforces the importance of outdoor play for learning and contradicts a simplistic view of the outdoors as a space restricted to opportunities for movement and energy liberation (Bilton, 2010; Nedovic & Morrissey, 2013).

The main findings are particularly relevant to the Portuguese early childhood practices and policies, allowing for a deeper understanding of how educational goals established in the Pedagogical Guidelines for 0–3 (ongoing work) might be attained through outdoor play. Although the official guidelines for early childhood education refer to the importance of outdoor play, more practical orientations might be needed to support the use of the outdoors. Recent studies indicate that professionals' views and attitudes about outdoor play are too focused on possible hazards that might happen outside and on indoor, adult-oriented activities to achieve educational outcomes, ignoring the learning potential of the outdoor environment (Bento, 2017; Bento & Portugal, 2016; Davies, 1997; Ernst, 2014; Ernst & Tornabene, 2012; Figueiredo, 2015; Waite, 2010). As Figueiredo's research (2015) shows, the time spent outside is often reduced, it occurs mainly during sunny days in Spring and Summer, and the play spaces lack stimulus for children to perceive different action possibilities. The reduced awareness about the potential of the outdoor environment reflects on a passive attitude of the adult during outdoor play. According to Davies (1997) and Waite (2010), adults tend to assume a surveillance role, without engaging in children's play and disregarding the possibility to achieve curricular goals through outdoor activities.

Reflecting on each educational goal and considering possible dimensions that seem to influence the quality of the experiences, results indicate that in regard to the development of a sense of security and positive self-esteem, outdoor play can contribute to children's well-being, autonomy,

and confidence. According to Laevers (2005), well-being is a key condition for learning, influencing children's openness to interactions, ability to adapt to new situations and confidence to face challenges. In order to achieve high levels of well-being, educational intervention should respond adequately to children's basic needs, not only related to feeding, sleeping or safety but also consider needs of affection, security, competence, recognition, among others (Portugal & Laevers, 2011). In planning for outdoor play, these concerns can be expressed through the provision of proper equipment for children to play outside (e.g. waterproof suits and boots) and mainly by guarantying supportive relationships that respect children's needs (e.g. adults paying attention and responding to children in a stimulating and challenging way). In the final interview, the early childhood teacher stated that the type of resources provided to the children was a key factor to achieve quality outdoor play experiences, which relates to the ability to get to know the children very well through observations and shared experiences and understanding what they need and like.

Opportunities for the development of curiosity and exploratory impetus were also identified and gave information about the influence of space features (e.g. fixed structures, loose objects, natural materials) in the type of experiences that can emerge. The possibility to interact with natural elements, such as water, soil, animals, etc., captivated children's interest and afforded interesting learning opportunities. As Tovey refers (2007), the way children explore the space can exceed adults' planning or expectations, so it is important to create responsive and rich environments, where children can benefit from multiple play opportunities. In this regard, practitioners should respect the special features of the space as they plan for educational activities (Mannion & Lynch, 2016). In our study, both practitioners were aware that it was not desirable to transfer indoor activities or strategies to the outdoors, offering time and resources for children to take advantages of the specific characteristics and stimulus of the outdoor environment. This assumption became clear through the data collected in the interviews, during informal conversations along the process of data collection and in the way the outdoor environment was organised.

Regarding the development of social and communication skills, the outdoor environment showed itself as a place for quality interactions between children and adults. Different episodes of positive social interactions were recorded and professionals also refer to this aspect during the interviews. Children enjoyed the company of others, showing an open attitude to accept different ideas or suggestions, cooperate and share. The adults acknowledged children's need for space and time to develop their initiatives, providing a balanced support and supervision. In fact, adults' attitudes during outdoor play can be identified as an important dimension to facilitate positive experiences (Ernst, 2014; Humberstone & Stan, 2011; Maynard & Waters, 2007; Waller, 2007). In this study, the adults' appreciation for the outdoor play was noticeable and influenced children's disposition to play and face challenges. As Waller states (2011), if adults truly value the potential of outdoor play it will be easier to overcome potential barriers for outdoor play, such as parents' fears, over rigid institution schedules, among others.

Going beyond the Portuguese borders, this study can contribute to a wider discussion about the need for specific guidelines related to outdoor play in educational settings. Despite cultural differences, other countries face similar challenges, often associated with teachers' difficulties to understand how educational goals can be achieved through outdoor play, respecting children's natural impetus for play, discovery and active knowledge building (Maynard & Waters, 2007; Waite, 2010).

In what concerns future possibilities for research, and acknowledging the limitations of this small-scale study, there is a need for further research about how the outdoor environment is valued and organised in other educational settings, to facilitate evidence-based policies that can enhance quality in early childhood education. From another perspective, more studies are necessary to better understand how different actors in children's lives such as parents, school leaders or other staff members perceive outdoor play and exert a role in creating the necessary conditions for a regular use of outdoor environments in educational settings.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work is financially supported by National Funds through FCT – Fundação para a Ciência e a Tecnologia, I.P., under the grant SFRH/BD/112330/2015.

Notes on contributors

Gabriela Bento is an educational psychologist and a PhD student in the University of Aveiro. Her main research interest relates to 'outdoor play' policies and practices in early years' education. Among her most recent publications is the book 'Taking the first steps outside – Under threes learning and developing in the natural environment' (Bilton et al., 2017). Since 2012 she has worked with different educational settings to support better pedagogical practices.

Jorge Adelino Costa is Full Professor in the University of Aveiro and director of the Education and Psychology Department. His main research interest is School Management and Leadership.

ORCID

Gabriela Bento  <http://orcid.org/0000-0003-4113-5692>

Jorge Adelino Costa  <http://orcid.org/0000-0002-7869-8029>

References

- Ballantyne, R., & Packer, J. (2009). Introducing a fifth pedagogy: Experience-based strategies for facilitating learning in natural environments. *Environmental Education Research*, 15(2), 243–262.
- Bento, G. (2012). *O perigo da segurança: Estudo das percepções de risco no brincar de um grupo de educadoras de infância* [The danger of security – Study about risky play perceptions in a group of early childhood teachers] (Unpublished master's thesis). University of Coimbra, Coimbra. Retrieved from <http://hdl.handle.net/10316/23413>.
- Bento, G. (2017). Arriscar ao brincar: Análise das percepções de risco em relação ao brincar num grupo de educadoras de infância [Playing and taking risks: Analysis of risky play perceptions in a group of early childhood teachers]. *Revista Brasileira De Educação*, 22(69), 385–403.
- Bento, G., & Portugal, G. (2016). Valorizando o espaço exterior e inovando práticas pedagógicas em educação de infância [Valuing the outdoor and innovating pedagogical practices in early childhood education]. *Revista Iberoamericana De Educación*, 72, 85–104.
- Bilton, H. (2010). *Outdoor learning in the early years. Management and innovation*. Oxon: Routledge.
- Bilton, H., Bento, G., & Dias, G. (2017). *Taking the first steps outside*. Oxon: Routledge.
- Broom, C. (2017). Exploring the relations between childhood experiences in nature and young adults' environmental attitudes and behaviours. *Australian Journal of Environmental Education*, 33(1), 34–47.
- Bundy, A. C., Luckett, T., Tranter, P. J., Naughton, G. A., Wyver, S. R., Ragen, J., & Spies, G. (2009). The risk is that there is "no risk": A simple, innovative intervention to increase children's activity levels. *International Journal of Early Years Education*, 17(1), 33–45.
- Bundy, A. C., Naughton, G., Tranter, P., Wyver, S., Baur, L., Schiller, W., ... Brentnall, J. (2011). The Sydney playground project: Popping the bubblewrap—Unleashing the power of play: A cluster randomized controlled trial of a primary school playground-based intervention aiming to increase children's physical activity and social skills. *BMC Public Health*, 11(1), 680.
- Canning, N. (2010). The influence of the outdoor environment: Den-making in three different contexts. *European Early Childhood Education Research Journal*, 18(4), 555–566.
- Collado, S., Staats, H., & Corraliza, J. A. (2013). Experiencing nature in children's summer camps: Affective, cognitive and behavioural consequences. *Journal of Environmental Psychology*, 33, 37–44.
- Davies, M. (1997). The teacher's role in outdoor play: Preschool teachers' beliefs and practices. *Journal of Australian Research in Early Childhood Education*, 1, 10–20.
- Ernst, J. (2014). Early childhood educators' preferences and perceptions regarding outdoor settings as learning environments. *International Journal of Early Childhood Environmental Education*, 2(1), 97–125.

- Ernst, J., & Tornabene, L. (2012). Preservice early childhood educators' perceptions of outdoor settings as learning environments. *Environmental Education Research*, 18(5), 643–664.
- Figueiredo, A. (2015). *Interação criança-espaco exterior em jardim de infância [Child-outdoor environment interaction in preschool]*(Unpublished doctoral dissertation). University of Aveiro, Aveiro. Retrieved from <http://hdl.handle.net/10773/14081>.
- Fjortoft, I. (2001). The natural environment as a playground for children: The impact of outdoor play activities in pre-primary school children. *Early Childhood Education Journal*, 29(2), 112–117.
- Fjortoft, I. (2004). Landscape as playscape: The effects of natural environments on children's play and motor development. *Children, Youth and Environments*, 14(2), 21–44.
- Ginsburg, K. R. (2007). The importance of play in promoting healthy child development and maintaining strong parent-child bonds. *Pediatrics*, 119(1), 182–188.
- Gompertz, B., Hincks, J., & Knight, R. H. (2011). Science and technology outside the classroom. In S. Waite (Ed.), *Children learning outside the classroom* (pp. 94–105). London: Sage Publications.
- Humberstone, B., & Stan, I. (2011). Outdoor learning: Primary pupils' experiences and teachers' interaction in outdoor learning. *Education 3-13*, 39(5), 529–540.
- Kernan, M. (2010). Space and place as a source of belonging and participation in urban environments: Considering the role of early childhood education and care settings. *European Early Childhood Education Research Journal*, 18(2), 199–213.
- Kernan, M., & Devine, D. (2010). Being confined within? Constructions of good childhood and outdoor play in early childhood education and care settings in Ireland. *Children & Society*, 24, 371–385.
- Kuh, L. P., Ponte, I., & Chau, C. (2014). The impact of a natural playscape installation on young children's play behaviors. *Children, Youth and Environments*, 23(2), 49–77.
- Laevers, F. (2005). Deep-level-learning and the experiential approach in early childhood and primary education. *Research centre for early childhood and primary education* (pp. 1–11). Leuven: Katholieke Universiteit Leuven. Retrieved from: https://vorming.cego.be/images/downloads/BO_DP_Deep-levelLearning.pdf
- Li, J., Hestenes, L. L., & Wang, Y. C. (2016). Links between preschool children's social skills and observed pretend play in outdoor childcare environments. *Early Childhood Education Journal*, 44, 61–68.
- Little, H., & Eager, D. (2010). Risk, challenge and safety: Implications for play quality and playground design. *European Early Childhood Education Research Journal*, 18(4), 497–513.
- Macintyre, C. (2001). *Enhancing learning through play*. London: David Fulton Publishers.
- Mannion, G., & Lynch, J. (2016). The primacy of place in education in outdoor settings. In B. Humberstone, H. Prince, & K. Henderson (Eds.), *International handbook of outdoor studies* (pp. 85–94). Oxon: Routledge.
- Mårtensson, F., Boldemann, C., Söderström, M., Blennow, M., Englund, J.-E., & Grahn, P. (2009). Outdoor environmental assessment of attention promoting settings for preschool children. *Health & Place*, 15(4), 1149–1157.
- Maxwell, L. E., Mitchell, M. R., & Evans, G. W. (2008). Effects of play equipment and loose parts on preschool children's outdoor play behavior: An observational study and design intervention. *Children, Youth and Environments*, 18(2), 36–60.
- Maynard, T., & Waters, J. (2007). Learning in the outdoor environment: A missed opportunity? *Early Years*, 27(3), 255–265.
- Maynard, T., Waters, J., & Clement, J. (2013). Child-initiated learning, the outdoor environment and the “under-achieving” child. *Early Years*, 33(3), 212–225.
- McClain, C., & Vandermaas-Peeler, M. (2015). Social contexts of development in natural outdoor environments: Children's motor activities, personal challenges and peer interactions at the river and the creek. *Journal of Adventure Education and Outdoor Learning*, 16(1), 31–48.
- Ministério da Educação. (2016). *Orientações curriculares para a educação pré-escolar [Curricular guidelines for preschool education]*. Lisboa: Author.
- Moyles, J. R. (1989). *Just playing? The role and status of play in early childhood education*. Buckingham: Open University Press.
- Moyles, J. R. (1994). *The excellence of play*. (J. R. Moyles, Ed.). Buckingham: Open University Press.
- Nedovic, S., & Morrissey, A. M. (2013). Calm active and focused: Children's responses to an organic outdoor learning environment. *Learning Environments Research*, 16(2), 281–295.
- Pellegrini, A. D., Dupuis, D., & Smith, P. K. (2007). Play in evolution and development. *Developmental Review*, 27(2), 261–276.
- Portugal, G., Carvalho, C., & Bento, G. (n.d.). *Orientações pedagógicas para o trabalho com crianças entre os 0 e os 3 anos de idade [Pedagogical guidelines for the work with 0 to 3 years old children] (ongoing work)*. Lisboa: Ministério da Educação.
- Portugal, G., & Laevers, F. (2011). *Avaliação em educação pré-escolar [Evaluation in preschool education]*. Porto: Porto Editora.
- Sandseter, E. (2009). Affordances for risky play in preschool: The importance of features in the play environment. *Early Childhood Education Journal*, 36, 439–446.

- Seland, M., & Sandseter, E. B. H. (2015). One- to three-year-old children's experience of subjective wellbeing in daycare. *Contemporary Issues in Early Childhood*, 16(1), 70–83.
- Stephenson, A. (2002). Opening up the outdoors: Exploring the relationship between the indoor and outdoor environments of a centre. *European Early Childhood Education Research Journal*, 10(1), 29–38.
- Tovey, H. (2007). *Playing outdoors. spaces and places, risk and challenges*. Maidenhead: Open University Press, McGraw-Hill Education.
- Vygotsky, L. S. (1976). Play and its role in the mental development of the child. In J. Bruner, A. Jolly, & C. Sylva (Eds.), *Play - its role in development and evolution* (pp. 534–554). New York: Basic Books, Inc Publisher.
- Waite, S. (2010). Losing our way? The downward path for outdoor learning for children aged 2–11 years. *Journal of Adventure Education & Outdoor Learning*, 10(2), 111–126.
- Waite, S., & Pratt, N. (2011). Theoretical perspectives on learning outside the classroom: Relationship between learning and place. In S. Waite (Ed.), *Children learning outside the classroom* (pp. 1–18). London: Sage Publications.
- Waite, S., Rogers, S., & Evans, J. (2013). Freedom, flow and fairness: Exploring how children develop socially at school through outdoor play. *Journal of Adventure Education & Outdoor Learning*, 13(3), 255–276.
- Waller, T. (2006). Don't come too close to my octopus tree: Recording and evaluating young children's perspectives on outdoor learning. *Children, Youth and Environments*, 16(2), 75–103.
- Waller, T. (2007). The trampoline tree and the swamp monster with 18 heads: Outdoor play in the foundation stage and foundation phase. *Education 3-13*, 35(4), 393–407.
- Waller, T. (2011). Adults are essential. In J. White (Ed.), *Outdoor provision in the early years* (pp. 35–44). London: Sage Publications.
- Waters, J., & Maynard, T. (2010). What's so interesting outside? A study of child-initiated interaction with teachers in the natural outdoor environment. *European Early Childhood Education Research Journal*, 18(4), 473–483.