Emotion Map Making.
Discovering Teachers' Relationships with Nature

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Abstract

Outdoor education means increasing the opportunity to encounter and experiment with nature, but above all, it means rethinking one's own relationship with nature. Professionals working in the field of education cannot transmit to children what they do not know or share. Therefore, to foster education in nature with pedagogical skill, it is important for each practitioner to become aware of their own way of thinking and be willing to undergo an authentic noological revolution (Bateson, 1976), reviewing their own relationship with the environment in an educational key. Starting from these premises, the participatory research focuses on the role of the early childhood practitioner, the emotions they feel, and the meanings they give to the outdoor spaces of the educational facility they inhabit in on a daily basis and share with the children. Placing the focus on the adult's viewpoint meant investigating their experiences and how these can condition the children's relations with more natural, destructured spaces. The results gathered by two tools, heart maps and lived-experience descriptions reveal difficulties teachers experience in connection with some spaces which are considered challenging and the necessity to support teachers in the reappropriation of those spaces with a view to identifying new perspectives for improvement.

Keywords: professional competence, lived space, preschool service, participatory research

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Introduction

The perspective of education in nature undoubtedly launches an interesting challenge not only in terms of the educational projects that can be developed but also in relation to the skills required by educational practitioners who manage, animate, and live the educational facilities on a daily basis and find themselves having to meet this challenge.

Many international studies and publications investigate the topic of *outdoor education* (Waller et al., 2017) and *education for sustainability* (Ärlemalm-Hagsér & Elliott, 2017; Davis, 2014, 2015; Daries et al., 2009; Elliot & Davis, 2014), underlining the importance of re-establishing a connection between *children and nature* right from early childhood services. Among many aspects, scientific literature highlights how experience in nature improves well-being and quality of life (Louv, 2006, 2011; White, Alcock, Wheeler, & Depledge, 2013; Zelenski & Nisbet, 2014); scientific literature supports the sense of belonging to the world (Kaplan, 1995; Wilson, 1993) and stimulates the recovery of ecological awareness and identity (Bateson, 1976); scientific literature supports attention and concentration and, at the same time, reducing stress (Bowler, Buyung-Ali, Knight, & Pullin, 2010; Herzog, Black, Fountaine, & Knotts, 1997; Kuo & Taylor, 2004; Taylor & Kuo, 2006, 2009; Taylor, Kuo, & Sullivan, 2001); scientific literature supports the possibility to learn cognitive and emotional development generally in a range of specific subject areas (Constable, 2012; Sobel, 2008; Waite & Pratt, 2011).

Fundamental results for education specialists suggest how educating *in the* environment, *on the* environment, and *for the* environment must become fundamental imperatives (Fien, 1993). Indeed, immersion *in the* environment is necessary as it gives children the chance to attribute meaning to the context they are immersed in. This meaning will allow them to decide whether to take care of it. It is then important to promote knowledge *of the* environment, learning about its characteristics and functions, discovering its many facets, and understanding the underlying risks. This is essential in both educational and social terms. Finally, it is fundamental for children to be able to act *to* do something for that environment they are also a part of, promoting a new environmental ethic.

For these reasons, we believe that education for sustainability and outdoor education must also pass through the immersion and re-appropriation of relations with nature. This represents a fundamental issue for us not as a specific educational approach but rather as an

element that is consistent with an idea of rigorous education that is able to restore the integrity of human beings, the world, and their relationships. This does not mean teaching an attitude to the natural world but rather educating us to pay attention to the observations and meanings children express when experiencing and building their relationship with the world (Bertolini, 1989). In our view, bringing the natural issue of education (Guerra, 2015; Schenetti, Salvaterra, & Rossini, 2015) into the pedagogy of early childhood education services becomes a necessary commitment not only due to the specific features of this issue but also to focus on the overall concept of children's quality of life (Bertolini, 1984). It is precisely the complexity, unpredictability, and – at the same time – the agreement of ideas and feelings with the world of children that make educational experience in nature a necessary element of the quality of any educational project. To recognize these peculiarities and translate them into educational practices that are intentional, systematic, but also, open, flexible, and contextualised, you cannot ignore the professional views and skills of those who inhabit educational services (Clark, 2010). To promote education in nature with a view to sustainable development (Guerra, 2015; Schenetti et al., 2015), it is indispensable for adults to be able to focus on the developmental needs of children and those typical and characteristic needs of the early childhood; adults must be aware of the need for a broader existential design that is able to develop a culture of the most urgent problems of our time, educating to the environment in order to educate to sustainability.

The Italian ECEC Context

Important reforms of the Early Childhood Educational and Care (ECEC) system are in progress in Italy. Italian law 107/2015 introduced the 'integrated system of education and training from birth to six years' in order to overcome the division between childcare and early education services existing since the 1960s. The laws implementing the ECEC integrated system are currently under discussion to reflect on the possibilities and challenges offered by the new legislative framework for ensuring the transition from split ECEC to an integrated system.

Until such process of reform is implemented, early childhood education and care provision remain organized within a split system. Early childhood services (nursery schools and integrated services) attended by children under three years of age fall under the

responsibility of the Ministry of Labour and Social Affairs while preschool services (infant schools), attended by children from 3 to 6 years old, fall under the responsibility of the Ministry of Education. Within this split system, as Balduzzi explains (Balduzzi, 2017, p. 4), "regions and municipalities have administrative responsibility for the regulation and funding of services for under-threes, and this has been one of the main motivations for which the 0-3 services were developed qualitatively and quantitatively differently across the country after their establishment in 1971". In fact, these services are attended by 13.5% of the national 0-3 year population although there are significant regional disparities in attendance rates; for example, attendance is nearly 27.7% in Emilia Romagna but less than 2% in Calabria (Italian National Institute of Statistics, 2015).

On the other hand, most infant schools are managed directly by the state, which took over complete responsibility for these institutions in 1968. Italian law 444/1968, in fact, led to development of state-maintained preschools and integrated previously existing institutions – mostly run by Catholic providers and municipalities – within the education system in order to ensure the standardization of the service. Because of these historical developments, the preschool sector is still organized in a tripartite system, covering state and municipal and private not-for-profit (mostly Catholic) providers. Currently, although not compulsory, infant schools are a well-established educational institution, attended by approximately 96% of 3-6 year olds across the country. This data underlines how state intervention and support, at both legislative and financial level, represent an important driving force for the dissemination of ECEC provision and support to their attendance.

In line with the principles on the professional development of early childhood practitioners stressed by European researchers (Jensen et al., 2016; Urban, Vandenbroeck, Peeters, Lazzari, & van Laere, 2011) and in European Commission policy papers (Thematic Working Group on ECEC, 2014), Italian law 107/2015 acknowledges the crucial role played by initial and in-service training of educators and teachers for qualifying the integrated ECEC system and a fundamental role of the pedagogical coordinator for enhancing the quality of ECEC at service level – by supporting practitioners' reflection on everyday practices – as well as for promoting the ongoing qualification of the entire system by connecting the pedagogical level with the organizational and local policy level. This empirical research is set within this framework.

Italian ECEC Outdoor Learning

Today the issue of education in nature is now a debated topic also in Italy; scientific publications on the topic have increased, starting from two dedicated monographs (Bertolino & Antonietti, 2017; Chistolini, 2016; Farnè & Agostini, 2014; Guerra, 2015; Schenetti et al., 2015) and many articles and discussions have been published in sector journals. The opportunities for cultural reflection have multiplied with conferences, seminars, and workshops on the topic: a cultural association, born within the international network, Children and Nature, and works to promote educational experiences in different natural contexts (forest schools, educational farm), seeking to restore the centrality of the relationship between education, children, and nature within their experience and social attention. An increasing number of educators and teachers feel the need to develop outdoor learning skills; they do so to understand the potential of the process or to ensure that the issue is not merely an urgency dictated by the latest pedagogical fads. In doing so, they make efforts to continuously re-inhabit the outdoor spaces of the children's education services and realize that their professional skills are not enough.

For all these reasons, today our country is experimenting a wide range of different experiences, all, however, marked by a common desire: the renewal of education which recognizes the concrete and fertile potential of pedagogical and educational attention to intentionally-designed experience in nature.

Purpose of This Study

The study hereby presented as is roots in a path of a two-year in-service training commissioned by Municipality of Bologna around the theme of outdoor education.

The aims of the in service training were the following: reflecting on the importance of a regular contact with nature during early childhood, considering the outdoor education and learning as a part of the ECEC curriculum, and documenting teachers' experiences to promote and share meta reflections on the theme and good practices on the field. During the in-service training, it was asked to the participants to go outside in the school gardens with continuity and intentionality. Observation protocols have been created in order to take

note of the relation between children and/or adult with the unusual outdoor spaces. At the end of in-service training, the participants completed a questionnaire to evaluate the training experience done. This tool has allowed to bring out the need from which it is born.

To promote the outdoor learning approach in those early childhood education services, it was necessary to understand how adults, teachers, and educators perceived and lived their school gardens. In fact, many of them declared they did not feel safe in them: an emotional experience that influences the possibility of use of spaces by children. In particular, the study presented here starts from the need to focus on adult's perception of outdoor spaces.

The need to recommence from the adult's emotional state and perceptions (Day & Leicht, 2001; Hargreaves, 1998; Zembylas, 2004) was also discussed and developed by Louv (2011), who stated that the best way to reconnect children with nature is to firstly reconnect adults to it. Investigating the metaphysical assumptions which unconsciously guide the teacher's thoughts helps to bring the implicit structural cognitive system hidden behind habits and unconscious behavior to the fore. Thinking about the adult-space relationship means asking how adults inhabit the spaces they frequent every day, what type of knowledge they possess of them, what meanings they give them, what legitimate relations lie within them, or, again, which childhood culture do they produce. Thinking about the dimension of inhabiting in these terms means searching for relations and recovering an aesthetic epistemology, a 'connecting structure' (Bateson, 1990) able to keep experiences united and enhance emotions as a key to accessing a more sophisticated intelligence.

Lived Space

There are many ways to use the concept of space related to pedagogy (Jørgensen, 2017). Studies on this issue can be divided into two macro areas: those which study it from a more objective point of view and those, on the other hand, which study the relative experiences (Becchi, 1990; Bruner, 1992; Iori, 1996). The majority of studies focus on children while we, on the other hand, will concentrate on adults.

Phenomenology considers the concept of space as an indisputable element of an educational event because every educational situation is always placed within a space/location (Heidegger, 1976; Husserl, 1965b; Merleau-Ponty, 1980). At the same time, outdoor experience and learning are always situated somewhere in landscapes and places.

For this reason, every educational experience is inseparable from and must be understood in relation to landscapes and places.

What makes the difference is the possibility to feel a relationship with the space or not (Husserl, 1965a). As researchers or early childhood practitioners, we have to nurture relationships between children and nature, daily and steadily, offering children *primary* experiences (Dewey, 1956). In order to do this, these moments must be planned with pedagogical intentionality as it is only in this way that it is possible to transform apparently anonymous spaces into lived spaces, spaces to which we have given an individual or global meaning which phenomenology describes as the characteristic of consciousness: intentionality. In our opinion, there is no education for sustainability without a relationship of subjectivity and this may begin from the experience and awareness of spaces. To highlight this need, we must monitor the process of change, using appropriate research tools like those presented in this contribution.

Ethical Considerations

The research was commissioned by the pedagogical coordination unit of the municipality of Bologna. The cooperation between the University of Bologna and the municipal Education Services sprang from the recognition of a demand, which emerged while compiling a self-assessment tool on the evaluation of service quality, which indicated a very limited use of the green areas of the nurseries and preschools. In this regard, it is significant to note that preschools in Emilia Romagna (Italy) are generally guaranteed extensive space outdoors. Despite this, however, outdoor space is frequently used for limited periods of time and outdoor play is considered more as a recreational rather than learning context. This problem, perceived by pedagogical coordinators as a stringent limit which had to be removed, became the starting point for the development of this research work. These premises lay the foundations for and guide subsequent methodological choices as they bring our attention and that of the pedagogical coordinators to the need to design interventions that can support teachers not only in redesigning school gardens but also in rethinking and modifying their own practice and that practice which, over the years, has led them to exclude outdoor spaces from the places of education. This reflection, discussed with the coordinators – key figures in the whole research process, had to begin with some

questions on the relationship with the teachers (Clark, 2010): as a teacher, what does being in this place mean to you? How do you feel when you are here? What emotions does it arouse in you?

Involving teachers in the attempt to understand and explain their emotional experiences of frequenting the outdoor spaces of school gardens with the children in their class leads to the need for participation and the sense of belonging to a place (Woodhead & Brooker, 2008), which is so necessary for guiding the need for re-appropriation of outdoor spaces. During the data collection, the anonymity required by ethical guidelines was ensured.

Method

This study used a qualitative methodology, in particular, participatory research (de Landsheere, 1988). The choice of this method responds to the need to solve a problem born within a group of people who perceive it as such: in this case, the low attendance of the external spaces of the services. The main goal of participatory research is the transformation of the context: a goal that cannot, therefore, be separated from an effective and total collaboration of all (teachers, educators, and coordinators) during the whole research process to allow change to take root deeply in the routines and early childhood education pedagogical projects. Moreover, a further advantage of this methodology is the fact that it can trigger, in participants, a better awareness of their personal resources and activate them in view of a transformation. Finally, the group's participation in the research allows the researcher to understand the objectives that are emerging during the process, responding in a timely and personalized manner to the needs of the context.

These elements have been translated into the present study by planning the research design that has been divided into two phases. The first phase, documented in other contributions (Schenetti & Donati, 2017; Schenetti & Guerra, 2016), highlighted some aspects which may be linked to the four *existentials* of van Manen (1990): lived space (spatiality), lived body (corporeality), lived time (temporality), and lived human relations (relationality or communality). These first results revealed the adults' feeling of dissatisfaction and malaise referred to the spatial and temporal organization of the educational services. This organization risks flattening the educational action, neglecting

the essential role of the bodily dimension within the educational relationship. "There seems to be a schism between the emotional 'I' and the professional 'I'. When the teacher enters the school, they take on the guise of the teacher and they (feel they) must silence their own feelings. This professional risk should not be underestimated: being unable to understand, accept, and manage one's own emotions appropriately and competently is a sign of the inability to accept and legitimize the children's emotions" (Schenetti & Guerra, 2016, p. 7).

The second phase of the research, to which this contribution refers, focuses on adult's emotional state and perceptions outdoors.

Participants

There were 203 participants in this study (preschool teachers, educators, and members of the school support staff): voluntary members of public preschools of the Municipality of Bologna. They were involved in five groups of around 40 members each. Every group was composed by teachers from the same district and with different years of experience in the educational field (from 5 to 20 years of experience). A special role was played by the pedagogical coordinators involved both during the meetings held with the practitioners and in focus groups with the researchers, during which the individual steps of the research were discussed and the subsequent steps co-constructed.

All the preschools follow a pedagogical outdoor approach content in a special shared document, called 'Per restituire la natura ai bambini (Return nature to the childhood)', built with the collaboration between researchers and practitioners (Diolaiti & Donati, 2015).

The Heart Map and Lived-Experience Descriptions

This study used a tool called heart map; it is a combination of topographic and emotional aspects (Becchi, 1990; Lamedica, 2003). Each practitioner was given the topographic map of their own service, starting from which, individually, they had the task of rethinking and interpreting it in emotional terms.

This choice was dictated by the desire not to monitor the individual practitioners' awareness of the spaces, but rather to focus attention on the clarification of the adult experiences linked to the frequenting of those places, in particular, the outdoor spaces. The

combination of visual and emotional aspects led to a high degree of involvement by all participants and an in-depth and joint reflection within the various working groups of teachers.

To guarantee this high level of discussion in the groups, it was fundamental to clearly explain the purpose of the tool. The instructions provided and wrote on the map and the following sheet, aimed to facilitate compilation and clearly stated the purpose of the tool.

The instructions on the map stated: "Every place suggests some emotions. Using the emotion labels under the map, try to specify what kind of emotions you feel in your school garden". The possible labels on the map included: satisfaction (yellow), happiness (red), peace (orange), pleasure (purple), worry (green), fatigue (pale blue), boredom (blue), and finally anxiety (brown) (Hargreaves, 1998; Kristjansson, 2007; Sutton & Wheatley, 2003). The use of colors to identify and describe the emotional state linked to specific spaces in the garden, aimed to facilitate the participants' awareness of their own experiences. Immediately, observing only the individual map, it was possible to understand which emotional shades "painted" an individual's way of relating to those spaces.

On one hand, the idea of offering a range of eight emotion labels to choose from facilitated the work of the participants by suggesting emotions to them; on the other hand, *it removed one source of research data* as it eliminated the possibility to leave the participants free to choose the labels, which best described their own emotional states,
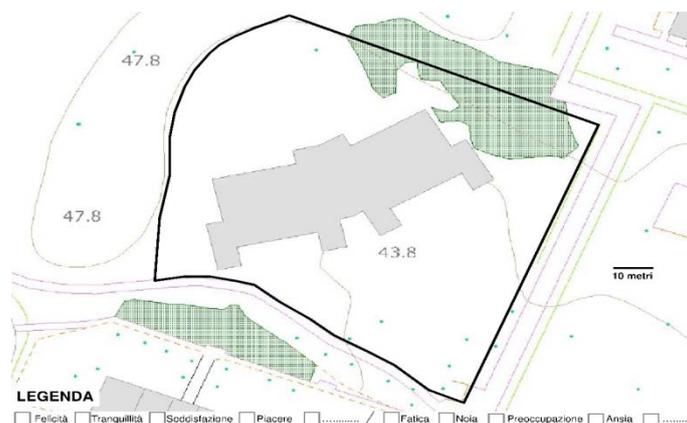

Figure 1. Topographic Map

Figure 2. Heart Map

becoming more aware of their experiences and reflecting more on the sophistication of their own emotional vocabulary.

Having completed the map, they were given a second tool, lived-experience descriptions with the following instruction: "Now, choose five of the emotion labels you selected before and explain the main reasons for your choice. Help by giving some examples of your past experiences".

Data Analysis

We examined 153 heart maps, each one with the respective lived-experience descriptions containing the motivations underlying the attribution of specific emotion labels. Mixed methods were used to gain a better understanding of the heart maps.

The maps were split starting from the emotion labels which were collected and divided into graphs to observe the most significant trends, most recurrent attributions, and the core themes on which to co-construct more targeted and in-depth reflections. The lived-experience descriptions were all transcribed and analyzed according to the hermeneutic perspective (van Manen, 1990). In this way, it was possible to conduct a detailed analysis of the materials gathered.

As explained, the heart map offered eight possible pre-set emotion labels; each participant could add others, indicating the name and identifying them with a colour.

During the analysis, 12 more emotional colours were found in addition to those indicated, which, in the following graphs, are combined for the sake of practicality and to facilitate the analysis in the category "other". These new emotion labels were also included in the analysis.

Results and Discussion

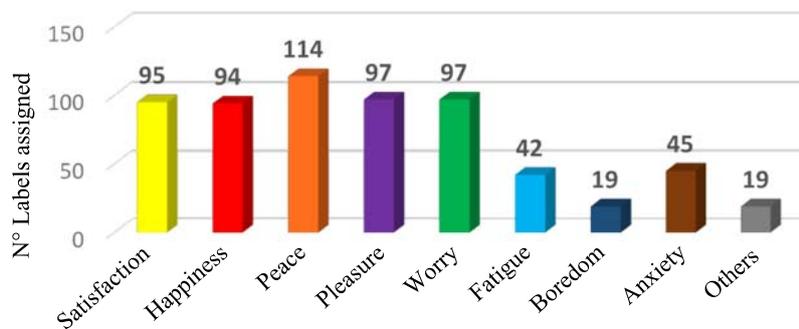The results emerging are shown here in graphic form (see Figure 3).

Figure 3. Histogram with Quantitative Data on the Emotion Labels

In total, 622 labels were assigned to the maps, of which 603 indicating the emotions offered and the remaining 19 with additional emotions and experiences compared to the ones originally provided. Some extracts from the various emotion labels are presented below, describing the reasons for the various choices. The extracts are presented in decreasing order of their percentages.

The descriptions given and expressed by the educators and teachers are reported in anonymous form, using an ID that refers to the various research protocols describing the reasons for the attribution of each emotion label. The numbering used derives from the alphabetical order used to catalogue the protocols.

Peace and Pleasure

These two emotion labels were the most commonly attributed; peace was chosen by 114 participants to describe their own emotional state in one or more spaces in the garden while pleasure was selected 97 times.

During the analysis, they were combined as, in most cases, both descriptions given referred to emotional experiences that are linked to the participants' childhood and that are recalled during their experience in nature. Many protocols linked peace and pleasure to the possibility to supervise or control the children, leaving them free to explore and play under the watchful eye of the educators and teachers in a space without any particular hazards.

From the descriptions, the idea that contact with nature and its spaces instil feelings of greater tranquillity in the children who, according to the adults, focus on calmer forms of play, concentrating more than can be observed indoors:

"Contact with the trees, the earth, the grass, the leaves gives me a sense of peace. I recall my childhood and the same states of mind." (ID 86)

"Because it reminds me of my childhood in the mountains where I could run about, fall, and play (without toys), using what we found in nature. It is a pleasure to see the children rediscover nature" (ID 41).

"The places in the garden I indicated are all "visible", so I feel more at ease in those places where I can easily see what the children are doing and consequently I think I can let the children enjoy these spaces more peacefully." (ID 73)

Worry

This emotion label, recording a total of 97 times, is frequently used to describe spaces in which the children can find natural materials such as sticks, branches, and trunks, on which, according to the adults, they could hurt themselves as they play.

A specific reason for worry in the schools bordering with public spaces is the possibility that the children could escape or come into contact with strangers on the other side of the garden fence. Another element leading to the choice of this label is the poor visibility, which prevents the adults from controlling and supervising the children; while in some cases, positive feelings are associated, deriving from the idea that the children have the possibility to gain independent experience in a safe and protected context; in this case, the

fact of not being able to see the children is a source of considerable worry. Other recurrent elements are the fear that the children can trip and fall as they run around and climb:

"The worry of being in the garden is due to the fear that strangers with bad intentions could approach the children. The garden is no longer surrounded by a hedge and this worries me because the children are more visible to anyone." (ID 113)

"This part of the garden has interlocking paving; if the children run very fast, they could fall and really hurt themselves. It's already happened more than once. It is also rather tiring having to contain the parents' worries." (ID 34)

Satisfaction

From the 95 protocols indicating the satisfaction label, a general trend emerged linking this emotional colour to situations and contexts in which it is possible to visibly recognize learning.

Seeing the children play, learn, experiment, and practically do something is often the main reason for which the adult recognizes their own satisfaction, often showing it using words of encouragement with the children. Particularly, significant words emerge such as amazement, curiosity, discovery, enthusiasm, and concepts that can be traced to the children's learning experiences which offer confirmation for the work of the educators and teachers. Some participants motivated their feeling of satisfaction in this way:

"When I see the children running about outside, I think they can breathe some fresh air, they can let out their emotions." (ID 140)

"Seeing what stimulus the garden offers and how it makes the children happier and more independent, seeing how much being outside is a source of curiosity for them even in the little things." (ID 101)

Happiness

As regards this emotion label, 94 attributions were recorded, referring in most cases to situations in which the children can experiment things autonomously. Once more, the emerging trend links the feeling of happiness to memories or positive sensations from the participants' own childhood as in the case of *Peace* and *Pleasure.*

In many cases, happiness is linked to the children's possibility to hide without being seen by the adults; as the analysis shows, on the other hand, for many adults, this recalls feelings of worry and anxiety given the difficulty or impossibility to see and control the children's

actions.

Some extracts are given below:

"The hill reminds me of the tumbles of my childhood (and not only): the emotion of losing your balance, falling and getting up again, the emotion of lying down and looking at the sky." (ID 5)

"The mud corner, playing with the earth, getting dirty, making mud pies... I always enjoyed these games as a child." (ID 14)

Fatigue

In many protocols, these were the most recurrent causes of a feeling of fatigue: taking care of the outdoor spaces, keeping them tidy, supervising all the children and keeping them under control in large spaces, making sure they take it in turns on the slides, swings, and other games in the gardens, reaching the children if needed, attracting their attention and interest towards natural elements and activities in the vegetable garden, and changing the children to go outside or come back inside.

The figure of the educator or teacher constantly in the center of the activities emerges greatly, a figure that limits the children's freedom to explore, driven by their own worries to intervene and manage the spaces. The descriptions of some extracts are given below:

"The fatigue comes from continuously having to structure activities to propose outdoors, to make sure that even if they have nothing to explore or do with the materials offered by nature, the children can spend a morning in the garden without getting bored and asking to go inside." (ID 88)

"It is tiring standing near the slide because the children push each other and crowd on the steps without giving enough time to the more apprehensive children to go down." (ID 58)

Anxiety

Educators and teachers describe a feeling of anxiety above all near the gates, doors, and poorly visible areas where the children cannot be seen or where there are pavements, uneven areas, or steps where they can fall and hurt themselves.

Another element that generates anxiety is the presence of bigger and smaller children in the same space, fearing that the bigger children may knock over or hurt the smaller ones:

"I feel anxiety in the closed part of the wood where the bushes have pointed leaves and sharp branches. The children love to run here, chase each other, and hide. The area borders on some low walls where the children climb up and jump off. I don't feel safe because if you're not close to them, you can't see if

they're doing anything which could be dangerous. There are steps and a gate leading to the nursery school next door." (ID 117)

"One part of the fence is covered by a shelter. The children often go behind it and you never know what they're doing when they're hiding back there." (ID 147)

Boredom

Not many labels indicated the feeling of boredom; the few indicates there seem to refer to reflected boredom, a feeling deriving from seeing the children get bored in poor and asphalted outdoor spaces that do not offer particular stimuli.

This feeling is often associated to repetitive and boring games like tricycles, slides, swings, toy cars, etc., which do not stimulate the children's imagination and creativity in contrast to natural materials:

"Area with the slide. Boredom. Because I think the children can go on the slide when they're at the park with their parents, at nursery, they should enjoy different experiences." (ID 37)

"Our garden has absolutely nothing to offer; there are no trees and bushes, no hills, no paths. Some of the ground is muddy and some covered with safety slabs." (ID 88)

Other

The emotion labels added by the participants include the following: curiosity, well-being, tension, annoyance, fun, frustration, disappointment, freedom, sharing, participation, cheer, and joy. While, on one hand, positive aspects linked to being in a natural environment are underlined, on the other hand, the descriptions refer to negative experiences defined by labels such as tension, annoyance, frustration, and disappointment. Some extracts describing these emotions are given below:

"The children play at digging. They play in the mud pool with stones, sticks. They climb and run about. This is a chaotic context that creates a feeling of tension in me, trying to keep an eye on all of it." (ID 6)

"The bicycle and scooter area. It annoys me because it is a place of arguments, discussions, and disputes. It is also annoying because it is extremely dusty." (ID 20)

"Frustration due to the idea of how many lovely things we could do, how many positive experiences the children could enjoy in a suitable outdoor space with trees, grass, gravel, and earth." (ID 88)

"What a disappointment having a garden that gives no satisfaction. There is no shade from the trees to give respite when it's hot. There's no space, no space to lie down in and look at the sky, no hills to climb up and down on. The only thing is a modern slide and after a while, the children don't even look at that

anymore. There's no water to water any flowerbeds with or to play with." (ID 90)

By carefully analysing the labels, it was possible to clearly note the tendency to attribute mainly positive emotions to the spaces in the school gardens. However, while the analyses revealed that, in percentage terms, the experiences linked to these latter emotions represent the majority of the emotion labels selected to interpret the heart maps, the motivations given to justify the negative labels are more significant and filled with indications for our research. According to a participatory methodology, we decided to focus on difficulties teachers experience in order to identify new perspectives for improvement.

In fact, descriptions linked to feelings of discomfort, difficulty, fear, and anxiety emerge, confirming the need to, first of all, investigate the adult's viewpoint, as a starting point for stimulating a change to overcome both the objective limits of outdoor spaces and subjective limits caused by the poor familiarity with the space and the low attention to personal emotional implications.

The use of the heart maps allowed us to focus on the personal experiences of the individual, understanding how this conditions the ways of inhabiting the outdoor spaces, and highlight questions, doubts, fears, weaknesses, and the need to bring central issues of everyday life in these educational services back into question.

Risk and Danger

From the data analysis, the need to work on two main concepts that shape and condition educational practice emerges: risk and danger. Working with teachers means generating critical reflection on their role, starting from their daily and practical engagement in school, in permitting or forbidding experiences. The map tool was used to identify the spaces with experiences of anxiety, worry, and fear, triggering a more in-depth reflection not only on the definition and meanings the participants give to the concepts of risk and danger (Adams, 2001; Sandseter, 2007, 2009) but also on the concept of *restriction use* (Storli & Sandseter, 2015) and *affordance* of outdoor spaces (Gibson, 1977, 1979). Thinking in these terms allowed us to shift our considerations from the children's viewpoint: is this space stimulating for the children? - to that of the adults; is this space stimulating for me? Starting from the idea that educational action should include risk as a constituting element (Bertolini

& Caronia, 1999), the adult's task should be to arrange appropriate contexts that are consistent with such premises (Jeffrey, 2006).

The teachers involved realized how the *forbidding model*, a phenomenon that translates into the tendency of adults to continuously remind the children "not to do, not to go, not to put in their mouth…" or to organize foreseeable activities to reduce risk and uncertainty, is widespread in educational services and above all in the use of outdoor spaces. From the teachers' testimonials, it can be seen that when working with children, planning things right down to the last detail makes them feel safer. Knowing how the day will proceed, what tasks they have, and what activities to propose makes them think that everything will be okay. The idea of going out without having established a set path to follow or not knowing exactly what the children are doing frightens some people; it makes them feel uncomfortable.

Perseverance and Continuity

In order to consider outdoor space as a learning context and transform Outdoor Learning into a habit for teachers, it is important to support them extensively and daily such as starting from children's interest and their natural needs to design school gardens.

Being in the world with children means constantly seeking precise tools to follow their experience, trying to understand it in the deepest way possible. The fact of being adults does not mean knowing what a child needs in advance. The educational experience is always and in any case an *experience in a situation* and this is why it is always exposed to *unpredictability* and *possibility* (Bertolini, 1989). In life outdoors, educational experiences can, therefore, be deemed *accurate* when building and shaping them competently and flexibly, starting from the unpredictability of the relationship with the children.

Ability Learning

From the data analysis, it emerges that children's learning is also recognized in *non-structured* activities or *non-structured* spaces, requiring a strongly circular process involving observation, planning, and pedagogical documentation. The educators and teachers involved were used to involving all the children from the same class in their

educational and teaching activity and, at the same time, planning activities designed to support the children in reaching learning objectives defined in advance.

Scientific research tells us that within learning environments (Carr, 2001) that allow complex experiences or outdoors, learning is as formal as that which takes place indoors (Waite and Pratt, 2011); it is multidisciplinary in nature, confirmed by research and experience (Constable, 2012) and concepts are more significant as they are real and alive because they are encountered as they normally occur in the world (Sedgwick, 2012). To make children who are not simply willing and diligent and who are impatient to learn and go beyond more "eager" learners (Carr, 2001, p. 21) who crave learning and knowledge, teachers must be able to recognize, understand, and support their different learning processes.

It is, therefore, fundamental to work on teachers' professional skills to train professionals who can recognize and support the learning processes of individual children using specific tools and with competent attitudes (Edwards, Gandini, & Forman, 1995).

Conclusion

Supporting the experience of educators and teachers, firstly in some rich, complex, and natural environments and subsequently in school gardens using meta-reflective tools because of in-service training and participatory research, allowed to bring out interesting reflections. According to a participatory research work (de Landsheere, 1988), one of the key elements of which was the ultimate aim of research must be the radical transformation of social reality and the improvement of the lives of the persons involved. We think it is important to underline that, from the results of this three-year long process, being outdoors allows adults to regain possession of their own time, enjoying that full and communicative silence that nowadays is so uncommon in educational settings. It offers the chance to recall the memories of a childhood that was so different from today and finally allows adults to note that they are still capable of being astonished and of wondering and experiencing an unexpected sense of freedom.

From the results of the participatory research, we can conclude, by underlining, how the teachers involved have become aware of how the restrictions in using the outdoor spaces of

their service were related more to their fears than actual danger; they have understood how frequent outdoor activities underline the value given to the relationship with nature. They have repeatedly thought about the importance of ensuring the continuity of experiences and meanings between indoors and outdoors. Designing empirical processes involving educators and teachers in a participatory research focusing on professionalism not only led to the continuous use of the school gardens regardless of the weather or the wildness of some contexts. It has been possible not only to redesign them but has also allowed some teachers involved to think "outside the box", opening up to the new and starting to challenge their *own educational model.*

Limitation

This participatory research allowed us to get to the heart of the problem, digging into the most hidden and taboo aspects, making each participant an active stakeholder in their own process of reflecting, and helping them to identify the questions needed to start thinking about the issues. While, on one hand, this was a huge advantage in supporting the personal enrichment of each participant, on the other hand, it made the research process extremely difficult. Each of the 203 participants brought their own needs to the programme and, at times, had difficulty dialoguing with those of others. Before starting, we had to help the participants to go beyond an egocentric perspective to become more allocentric, supporting them in relating to others and, through this, welcoming new stimuli and reflections.

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