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dehors

# GUIDE FOR THE DEVELOPMENT AND VALORISATION OF OUTDOOR SPACES

## INTELLECTUAL OUTPUT 2 DEHORS PROJECT

**DE**veloping innovative learning contexts in pre-sch**HO**ols' **OutdooR** **S**paces





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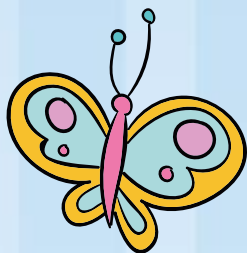
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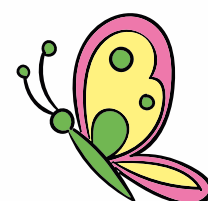
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## The value of outdoor spaces and outdoor play and learning in Early Childhood Education

### INTRODUCTION

There is a long tradition of using the outdoor environment for play and learning in Early Childhood Education (ECE). However, in an increasingly urbanised world, outdoor spaces available for children's play and learning are diminishing. The access to safe outdoor environments surrounding the preschools, the school grounds, are also under pressure when cities are becoming denser (Prince, Allin, Hansen-Sandseter & Årlemalm-Hagsér, 2013). So, there is a need to stand up for children's right to have access to good quality outdoor spaces. Today, there is an increasing emphasis on academic learning outcomes in the ECE practice, which also can have negative impact on children's access to outdoor spaces (Waite & Pratt cited in Waller, Årlemalm-Hagsér, Hansen Sandseter, Lee-Hammond, Lekies & Wyver, 2017). Generally, the outdoor areas are mainly used for free play and recess, and teacher-led activities are most often conducted indoors but in, for example the Swedish National Board for Housing, Building and Planning states that the pre-school grounds should be appropriate for pedagogical purposes (BFS 2015:1 FRI 1). One way to increase children's access to the outdoors is to use the school grounds also for structured learning activities that usually are performed indoors. To make it a genuine choice of place for the teachers, the school

grounds need to be well adapted to the diversity of pre-school children's learning. The aims of this project, "Developing innovative learning contexts in pre-school's Outdoor Spaces" (DEHORS) are to:

1. Improve the quality of children's learning through innovative outdoor learning environments.
2. Improve pre-school teachers' skills and strategies about outdoor activities.
3. Design innovative outdoor learning spaces by bringing together expertise from different fields.

This report was elaborated in the framework of the DEHORS project. It represents the second intellectual output, IO2: Guide for the development and valorisation of outdoor spaces. It builds upon the results of IO1: Models of outdoor learning spaces in pre-schools and is related to IO3: Online Training module on outdoor activities for teachers based on the content of the guide.

### OUTDOOR EDUCATION

Outdoor teaching and learning are a multidisciplinary field of practice and different cultural interpretations make it even more diverse. It is therefore impossible to state a definition or a description of practice that is general world-wide. It is a practice that is embedded



in social, cultural and political contexts (c.f MacQuarrie, Nugent & Warden, 2015 concerning nature based ECE and Maynard & Waters, 2007 concerning the use of the school yard). Recent understandings of outdoor education in schools focus more on regular curriculum-based activities that take part in the vicinity of schools rather than on distant occasional field trips (Dyment & Potter, 2014). In the Scandinavian countries 'outdoor school' (udeskole) is a regular practice in some schools (Dettweiler & Mygind, 2020), although not a common practice. Outdoor school means that the classroom is exchanged to the outdoor environment on a regular basis, approximately half a day to one day a week. All subjects can be taught outdoors and often in a multidisciplinary way. The approach of outdoor school can be found in other countries as well, and for example the concept of Forest schools is gaining increased interest in many countries. Research at different levels of the school system reveal positive outcomes related to important dimensions of learning such as increased student motivation and increased social interaction (Becker, Lauterbach, Spengel, Dettweiler & Mess, 2017; Fägerstam, 2014; Mygind, 2020). Positive outcomes on academic learning are also reported although results are here not as solid and vary according to contexts and subjects (Becker et al. 2017; Fägerstam & Grothérus, 2018; Fägerstam & Samuelsson, 2014; Roed Otte, Bølling, Bentsen & Eeby-Ernst, 2020).

There are fewer studies in an ECEC context, but an Italian study reveals significant differences between indoor and outdoor groups in cognitive development, fine motor skills and in social and emotional development for

children 2-3 years old. Children aged 1-2 showed a similar trend except in social and emotional development where there were no differences (Monti, Farné, Crudeli, Agostini, Minelli & Cecilian, 2017). Thus, the outdoor environment seems to have many positive effects on children's learning and development in different ways. It can have an impact on all the three dimensions that are significant for learning: cognitive, social and emotional (Illeris, 2007). Although many researchers emphasize the importance of children's free play and learning, there is an increased focus on academic learning in many countries' ECEC curricula and therefore, it is of interest to see in what ways the outdoor environment can be an arena for more structured learning, also in early childhood education.

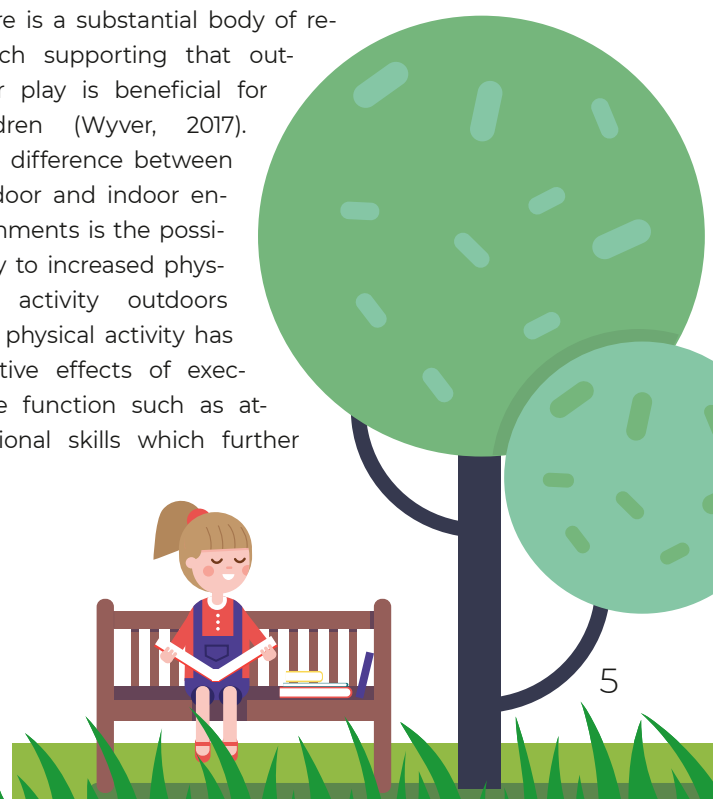
Another important Italian contribution on the positive effect of natural education is brought by Gianfranco Zavalloni (2003), an Italian teacher and headteacher, who has drawn up the manifesto "The natural rights of boys and girls".

He highlights the needs that children nowadays manifest in their playful expressions. He elaborated ten rights thinking about his childhood, what elements were indispensable in his games and asking the children today. Some rights are not easy to put into practice, but he invites the adult-parents to give it a try, thus bringing the world of adults closer to that of children.

The rights identified by Zavalloni are: "The right to be idle, the right to get dirty, the right to the smells, the right to dialogue, the right to the use of hands, the right to a good start, the right to the road, the right to the wild, the right to the silence, the right to the shades" (Zavalloni 2003, Online).

## OUTDOOR PLAY

There is a substantial body of research supporting that outdoor play is beneficial for children (Wyver, 2017). One difference between outdoor and indoor environments is the possibility to increased physical activity outdoors and physical activity has positive effects of executive function such as attentional skills which further





on have an impact on the development of cognitive processes (e.g. working memory and self-regulation). The reason why physical activity might increase executive functions are several. Firstly, goal-directed and engaging exercise, as well as complex motor movements require high cognitive demands, and secondly, aerobic exercise induces physiological changes in the brain (Best, cited in Wyver, 2017).

In a study examining the relation between time spent outdoors and children's cognitive and behavioural development, Ulset, Vitaro, Brendgren, Bekkhus and Borge (2017) found that time spent outdoors was positively associated with lower attention-hyperactivity symptoms. Their results also indicated that time spent outdoors had a positive effect on attention and short-term memory for children aged four to seven years old. Thus, to let children spend a high proportion of time outdoors increase physical activity which is beneficial for cognitive processes. Play in the outdoor environment has the potential to increase physical activity and well-being (Bento & Sandseter, 2020), although not all children revealed increased well-being during outdoor play. A Portuguese study also reveal that outdoor play contributes to well-being in children and that it also can contribute to educational goals such as problem solving, experimentation, self-esteem and communicational skills (Bento & Costa, 2018).

Play and learning are intrinsically related for young children (Saracho, 2017) and Klaar and Öhman (2014) discuss how outdoor play can foster children's experience-based learning about nature as well as conceptual scientific knowledge. However, they emphasize the critical role of the teachers in terms of paying attention to and verbalising what children are exploring and experiencing. Acknowledging the importance of children's free play in the outdoors, this project focusses on teacher-led activities with the aim of developing children's knowledge and skills in an outdoor ECEC setting.

### LEARNING OUTDOORS THEORETICAL FRAMEWORKS

There is no fundamental difference in how children learn indoors versus outdoors.

Children's learning takes place both inside and outside educational institutions. Opportunities are different and intertwined in the overall development of the child. Outside, children are less guided by adults, they are free to carry out individual and group experiences and research. The natural

environment is not only an object of learning, but it is a real and privileged instrument of knowledge and understanding, as argued by Monica Guerra (2017) in "Matèrie Intelligenti".

Contemporary theories of learning emphasize that learning is embedded in culture and that children's learning is socially constructed. Learning is perceived as participating in a social context where sharing of thoughts and ideas is an important part. Adults or other children can guide the individual child to a deepened understanding of a topic or to learn new skills by being a more knowledgeable person (Vygotsky, 1933/1978). Communication and participation are fundamental aspects in social constructivist theory of learning. The outdoor environment seems to have qualities that foster participation, collaboration and communication (Becker et al, 2017; Fägerstam, 2014; Mygind, 2020).

Adults and children are active protagonists in the research processes carried out in educational contexts. The educator should not lead or replace the children but support them, encourage them, just as socio-constructivist theories underline.

"The adult is not only the one who transmits knowledge, but he is the one who, with a curious and open look to the possible, identifies research paths, co-building together with children senses and meanings around reality" (Mussini 2020 p.94).

According to Bruner children are active builders of an idea of reality, mediated by the intersubjective dimension and then become the heritage of the group.

One aspect is different is the increased possibility for children to acquire first-hand experiences. An indoor environment often relies on stories, pictures and texts but outdoors, children can experience phenomena in the outside world by themselves. In an outdoor environment, children have greater potential to learn by incorporating multisensory and embodied engagement. The experiences made outdoors can later be used as learning objects indoors and possibly raise new questions to be explored. This continuous flow of experience and reflection is a key stone for outdoor learning (Dewey, 1902/2001; Quay & Seaman, 2016).





## THE ROLE OF PLACE IN LEARNING OUTDOORS

The role of place has received increased focus in outdoor research recently. So called place-based or place-responsive education are an approach that focus on the role of place as a component in education. Mannion and Lynch (2015) distinguish between three approaches of how the place is taken into account. First, they describe the place-ambivalent approach where the place is not relevant for the activity. It could be done anywhere, also indoors. Second, place-responsive teaching is where place play some role in what is taught.

Still, it could be exchanged with another similar place, like another forest if the topic is learning about forests. In the third approach, place-essential teaching, the lesson can't be enacted elsewhere because the place is an essential component. The lesson is based on this particular place and the objective is to learn in, about and from the place. In outdoor school, all the three approaches have their purpose but if all lessons are place-ambivalent, there is possibly more potentials to acquire from outdoor learning with a more reflected planning and use of place. When teaching is conducted on the school grounds, it is of course difficult and not relevant to plan for place-essential lessons every time. However, this model can be a useful way to reflect on why the lesson is held outdoors and how the place is used.

## THE ROLE OF CHILD AND ADULT IN LEARNING OUTDOORS

The idea of child to which we refer is that of a subject, endowed with rights, predisposed to relationships, and encounters with others.

A subject who is precociously inclined to learn, through different codes and languages, capable of constructing his or her own and original paths of knowledge, able to offer hypotheses, interpretations and provisional theories on world events, thanks to constant interaction with the surrounding context of life.

An individual, unique and unrepeatable, whose learning process makes use of creativity, uncertainty, intuition, curiosity, is realized in the interweaving of the playful, aesthetic, emotional and relational dimension.

"A competent, active, critical child [...] producer of changes, of dynamic movements in the systems in which he is inserted, both social and family and school. Producer of culture, values and rights and competent to live and know. [...] A child capable of making and unmaking possible realities, of constructing metaphors and creative paradoxes [...] capable, very early on, of attributing meanings to events and of seeking and sharing senses, stories of meaning" (Carla Rinaldi, *I taccuini "I Processi di apprendimento dei bambini tra soggettività e intersoggettività"*, 1999; pag.9)

According to Bruner (1996-2000), children are active constructors of a model of the world mediated by what happens in the intersubjective dimension. These cultural references lead us to reflect on the role of those who work in education: teachers and educators.

We think, then, of an adult who listens to children's ways of being, learning and knowing, exercising that function of support and backing for children's countless daily discoveries.

An adult who is able to relaunch concepts and thoughts, setting up meaningful and problematizing learning contexts; an adult who, through the strategy of questioning, of asking and posing generating questions, enters into the merits of the issues dealt with and approaches the child's thinking, in order to open up new and significant avenues of research.

An adult who, together with fellow educators/teachers and the pedagogue, focuses on the research processes activated by the children and develops strategies capable of supporting the process of constructing children's and adults' knowledge by constantly activating reflective and recursive thinking about what is happening.





### NATURE/GREEN AREAS AS A LEARNING ENVIRONMENT

That children need to spend time in natural environments for a sound development and healthy life is part of the cultural belief in many countries (MacQuarrie, Nugent & Warden, 2015). There is an increasing body of research that support the benefits of nature on children's learning and well-being. Kuo, Barnes and Jordan (2019) suggest from their meta-analysis that nature exposure has impact on the learning context as well as the learner. Green environment may increase learning because they lead to a calmer and quieter

context, they increase cooperation and child-child relations, they offer loose parts and autonomy for play, and subsequently learning. The effects analysed on the learner are increased engagement, attention, self-discipline and physical activity, and decreased stress.



### THE PRE-SCHOOL OUTDOOR AREA

One of the aims of this project was to *improve the quality of children's learning through innovative outdoor learning environment*. In this section will some models of and guides about children's outdoor environment be presented. One model that guided the discussions at the transnational meetings, leading to the development of IOI, was the model called the Seven Cs' design guidelines (Herrington, Brunelle & Brussoni, 2017). This model is the result of a 5-year research study in Canada with the aim of identify physical characteristics of outdoor play spaces that contribute to children's development and health during. The model can be used as a guide when designing children's outdoor spaces and the Cs stand for Character, Context, Connectivity, Clarity, Chance, Change and Challenge.

**CHARACTER** refers to the general atmosphere of the area. Is it good condition and does it provides multi-sensory stimuli and different materials and textures? Can the vegetation be used in play?

**CONTEXT** refers to how the area interacts with the surrounding environment. Can children interact with, and view the surroundings outside the preschool?

**CONNECTIVITY** means that different spaces are connected through physical and visual pathways. The pathways should preferably have different width and surfaces and could be looping for continuous movement.

**CLARITY** means that children should easily identify different zones, as well as physical composition of a space. Are play equipment appropriately placed? Are there places where children can sit?

Designing for **CHANCE** means that children should have the opportunity to find different kinds of material to manipulate and use for their own interests. Vegetation, including loose material, water, mud and sand are types of materials that can be explored and used in a varied way and leaves room for creativity and chance of something unexpected to happen.

**CHANGE** means that the area should provide a range of spaces and subspaces that allow for different types of play. Different ground surface, typography and vegetation are examples of things that contribute to change in play. Are there places that invites for active play as well as for relaxation?

**CHALLENGE** means the possibility for children to take physical and cognitive challenges in order to test their limits. To do so the space needs elements such as stones, logs, trees, ladders, ropes, flat open spaces.

A Norwegian report aiming at increase knowledge about what quality in the pre-school outdoor environment is, present conclusions from the literature about important aspects of pre-school grounds (Halvorsen, Thor, Nordbø, Nordh, & Ottesen, 2019). They conclude that natural vegetation and varied topography increase





self-directed play and motor skills. Open areas increase physical activity. Structured play zones are also important for physical activity but does often contribute in other ways than expected, they are for example often used in children's role play. It is better with a diversity of smaller zones, rather than one large open area. Natural areas increase the diversity of play.

The Swedish municipality Lund (2016) have published a report based on previous research, where they conclude six quality aspects that should be used when designing and evaluating pre-school grounds. They are open area, different zones (the secure zone, the zone for diverse play and the wild zone), vegetation and topography, integration of play equipment, possibility to learn about the world (e.g. gardens or wild areas that change during the seasons), possibility to interaction between indoors and outdoors.

## The main elements that emerged from the creation of IO1 by the DEHORS Consortium

The work with IO1 resulted in an agreement about eight important areas in a tentative preschool ground. The areas do not intend to cover all dimensions of a preschool ground but emerged as significant aspects of a school ground where children can play, learn and develop. Participants from each country in the project added their cultural and practical understanding of a qualitative preschool outdoor environment and together we came to the conclusion to include these eight areas. Input from invited experts in the field did also contribute to the result, see further description below. In the following section the areas will first shortly be presented, and their relation to intended learning objectives

and second, discussed in the light of previous research. The section will end with a description of one learning activity related to each area. In order to fulfil the objective *"to improve preschool teacher's skills and strategies about outdoor activities"*, the participating partners developed several learning activities suitable for each area. A number of these activities were then tested by another partner and evaluated in terms of learning outcomes. One example of an activity from each area will be presented together with a summary of the evaluation. All activities and the evaluations can be found in Appendix 1.





## Definitions of the eight significant areas at the preschool ground

### Wild area

The wild area is an unstructured environment, not facilitated by adults. It contains varied terrains and altitude conditions with hills and slopes, logs and stones, puddles. It also contains varied vegetation conditions with a mix of tall trees, low bushes, tall grass, low grass, plants, and flowers.

With the help of plants, biotopes can be formed in the outdoor environment showing biological links, the vegetation increases the biodiversity of the environment which promotes wildlife.

Bug hotels and bird houses can also be incorporated. The area gives opportunities to follow the seasonal changes of the seasons.

**Using the Seven Cs, a wild area contributes with character, chance, change and challenge.**

#### RELATION TO INTENDED LEARNING OUTCOMES

In the Wild area children will be able to:

##### ● reflection

Reflect on experiences, knowledge acquisition and social interactions. The unstructured environment increases the children's imagination and free thinking.

##### ● discovery

Discover and explore nature in its various seasons. The children are given the opportunity to use all their senses to discover their surroundings.

##### ● connection with nature

Experience nature with all their senses. To feel part of nature and develop responsibility towards it. To achieve well-being, inner peace and freedom.

##### ● deconstruction and reconstruction of children's imagination

Encourage various forms of play, role play and teaching. The environment strengthens children's imagination and creativity and desire to explore both their senses and the environment.

##### ● exploring

Discover, investigate and learn about nature. What children see and experience in the wild area can be used for a teaching purpose, to find out more facts and knowledge.

##### ● inquiring

The children will be encouraged to ask questions and find the data to answer the question(s) themselves through guidance from their teacher. The environment and responsive teachers can increase children's curiosity to learn more about nature and the environment.

### Secret places

By creating of secret, cozy, and silent places for the children, we obtain quiet places instilling a sense of well-being. The intimacy of these places allows the kid to hide and take a rest from the big group, in order to think and listen to his/her own feelings, and it may encourage the graphic experimentation, the storytelling, the activation of play/research experiences, leading to possible cognitive and creative learning for the individual and for the group. The secret places are surrounded by plants and/or materials meant to create a given "intimacy", but at the same time to allow an adult to supervise kids.

**Using the Seven Cs, secret places contribute with change.**

#### RELATION TO INTENDED LEARNING OUTCOMES

In Secret places the children will be able to

##### ● development of social skills

Spend time and socialize with other kids, creating a proper and positive relationship based on communication and interaction with the others through verbal and non-verbal languages.

##### ● self-reflection

Get the chance to listen to oneself and one's own thoughts. They have the chance to reflect upon the consequences of the actions on oneself and on the others.

##### ● imagination

Have Fantastic creation of new images and ideas starting from an experience, a play or a material to be used creatively, alone or in group.

##### ● emotion management

Train oneself in recognizing one's feelings and the others' emotions, learning how to express them in a complex way and how to manage them with self-control.







## Garden for all senses

A classroom-like gathering place in the outdoors, where you can find the opportunity to grow outdoors, in green boxes and in greenhouses. You can fill the garden or a greenhouse with aromatic herbs, flowers, vegetables, evergreen trees, and deciduous trees. The cultivation opportunities on the farm can be arranged for a learning purpose to increase knowledge about cultivation, composting and cycles. The site creates opportunities to follow seasonal changes and to follow the life cycle of plants from sowing to harvest. Develop the senses through taste, smell, feeling, sight, and hearing.

*Using the Seven Cs a garden of all senses contributes with character, chance and change.*

### RELATION TO INTENDED LEARNING OUTCOMES

In the Garden for all senses the children will be able to:

#### ● learning nature and plants (natural sciences)

Increase their knowledge of nature, plants, animals, and scientific phenomena through an exploratory approach; children could also follow seasonal changes in nature.

#### ● learning about care for nature (soil, seeds, crops) and green thinking

Create opportunities to get a feel for, and feel caring about nature and the world we live in. Increase understanding of one's own imprint in the environment and how one's own actions affect the environment and surroundings.

#### ● teamwork

Experience nature with all their senses. To feel part of nature and develop responsibility towards it. To achieve well-being, inner peace and freedom.

#### ● get connected to nature

Get close and get a sense of nature and the environment. The children will also follow the season through cultivation and harvest.

#### ● learning about senses and perceptions

Explore nature through our five senses, sight, hearing, touch, taste, and smell. Practice sorting impressions and have the peace of mind to process experiences.

## Learning pathways

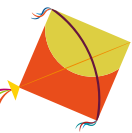
Learning pathways develop plural learning that involves adults and children; together they can create and recreate the routes as they please and at the same time explore them. There are different types of learning pathways:

- **Nature trail - by man:** trampled path with natural surface sand, stones, clay, plants etc.
- **Sensory path:** the path, which is developed from different materials, mostly natural materials. Possible materials for sensory path: sand, pebbles, bark of tree, cones, moss, water, mud, clay, mulch, tree cuts etc. Children can walk on the trail in shoes and barefoot.
- **Obstacle course:** the course for traveling on foot, children must overcome various physical challenges in the form of obstacles.
- **Learning path on the asphalt:** graphic path on the asphalt, it can be painted with paints or chalk. It consists of different tasks for developing motor skills, coordination, spatial orientation, mathematical concepts, language development and development of social skills.

*Using the Seven Cs, learning pathways contributes with clarity.*







## RELATION TO INTENDED LEARNING OUTCOMES

In the Learning pathways the children will be able to:

### to develop math skills

Learn numbers, colours, geometric shapes, measuring skills, to develop logical thinking. To experience the concepts of mathematics through different ways (e.g., Number of steps for distance, speed of walking, quantity of flowers/trees, separating things they collect in half, identifying the fewer quantity as opposed to more).

### technical skills

Do Practical math, measuring and comparing skills.

### sensory skills

Interact with the environment and collect information (discovering the environment through senses): sight, hearing, taste, smell, touch, and the detection of movement.

### orientation skills

Determine their own location relative to the elements of the surrounding space, to move in different directions. The children could also improve the ability to move with skill and safety in the space.

### physical skills

Develop gross and fine motor skills, coordination, and balance to perform a certain task.

can also be used by children for relaxation, when they need to.

### self-reflection

Reflect on their actions and consequences that might dangerous/reckless behaviours might yield. Opportunity to stop and think about their feelings and behaviour.

### social communication skills

Strive towards a smooth coexistence of all children in the same class/school, while they act respectfully with all other children and have meaningful social interactions. Children's communication skills can be enhanced, together with understanding language better and communicating it in different ways across different situations. This includes both verbal and non-verbal expressions, such as gestures, body language and the way children talk. An overall culture of communication and understanding is developed.

### respect for each other

Respect and treat other people with courtesy (using polite words), observing the children that need additional help/support and providing this, while avoiding things that can hurt other children. Listening to other children's/people's wishes and needs, children to start compromising their needs when other people are in need.

## Relax zone

A place for children to feel comfortable, rest and have informal discussions with their peers. A place to be able to pull away and be with your own thoughts for a while. A place to settle and run to, whenever children have the need to relax or freely express their emotions with their peers and/or teachers. Having a designated quiet place for children to take some time out, it can provide them with a plethora of benefits. For instance, children may be able to focus better and faster and concentrate on controlling themselves. In addition, children are assisted to develop an understanding of themselves. That would be their need to stop and relax for a while. Helping children to develop skills to manage stress can lead them to the ability of handling other bigger feelings. Moreover, by taking the time to relax, children build their inner confidence and are provided with the opportunity of reflecting upon their day and to develop self-awareness.

*Using the Seven Cs, relax zones contributes with clarity and change.*

## RELATION TO INTENDED LEARNING OUTCOMES

In the relax zone the children will be able to:

### place for rest and relaxation

Stay in an ideal place for tranquillity and self-reflection, where children feel safe, calm and can perform self-reflection. A relaxing and meditative environment, which

## Structured play zone

This is a territory, which is equipped for the purpose of organizing physical activity and leisure of children. This is a set of facilities that promote physical and cognitive development. Modules may vary depending on the age of the children. Possible types of structures: bridges for transitions, steps, rope nets, spiral descents, slides, horizontal bars, tunnels, stairs, swings, balancers, seesaw, creepy, house on the tree, outdoor kitchen. Preferably structures made from natural materials and play zone can be mixed with the surrounding natural environment.

*Using the Seven Cs, a structured play zone contributes with clarity and challenge.*





### RELATION TO INTENDED LEARNING OUTCOMES

In the structured play zone the children will be able to:

#### ● learn about safety

Understand and avoid things cause danger, risk, or injury. To know and use rules, by doing what is allowed for each context every time.

#### ● development of motorics

Improve fine and gross motoric skills, coordination and body perception in a playful way.

#### ● subjected related (physics and science)

Learn and experiment with scientific and physical elements.

#### ● collaboration

Work and play together to complete a task or achieve a common Goal; teamworking, to take into account the thoughts and ideas of others in the game. To develop skills of engaging to social relationships (tolerance). Explore nature through our five senses, sight, hearing, touch, taste, and smell. Practice sorting impressions and have the peace of mind to process experiences.

#### ● behavioural skills (to follow rules)

To create and follow positive behavior rules in games.

### Outdoor ateliers

Gardens, outdoor space, and nature are always there, every time the same, though every time also different. The challenge is to observe, stop and let oneself be involved every day. In the outdoor atelier kids have the chance to deepen the investigation they began indoor, develop creativity and imagination using different artistic forms of expression, plan and carry-on scientific experiments. In the outdoor atelier kids find baskets made out of natural material (e.g. pines, branches, leaves, blackboards, chalks etc.), boxes and ropes. This area needs to be protected from sun rays, rain and wind, in order to extend the outdoor season and maximize children's opportunities for learning.

■ *Using the Seven Cs, an outdoor ateliers contributes with clarity and chance.*

### RELATION TO INTENDED LEARNING OUTCOMES

In the outdoor atelier the children will be able to:

#### ■ develop creativity

Develop a critical and divergent thinking through logic, problem solving and creation of new ideas.

#### ■ learning about expressive languages (fine motorics)

Develop the ability to express oneself using different languages, with a multisensory approach that gives a more complex idea of reality back to the kids.

#### ■ experimentation

Research on materials with a scientific approach (tries & mistakes), by collecting data, making and testing hypothesis, generating new ideas and thoughts about the world.

#### ■ creation

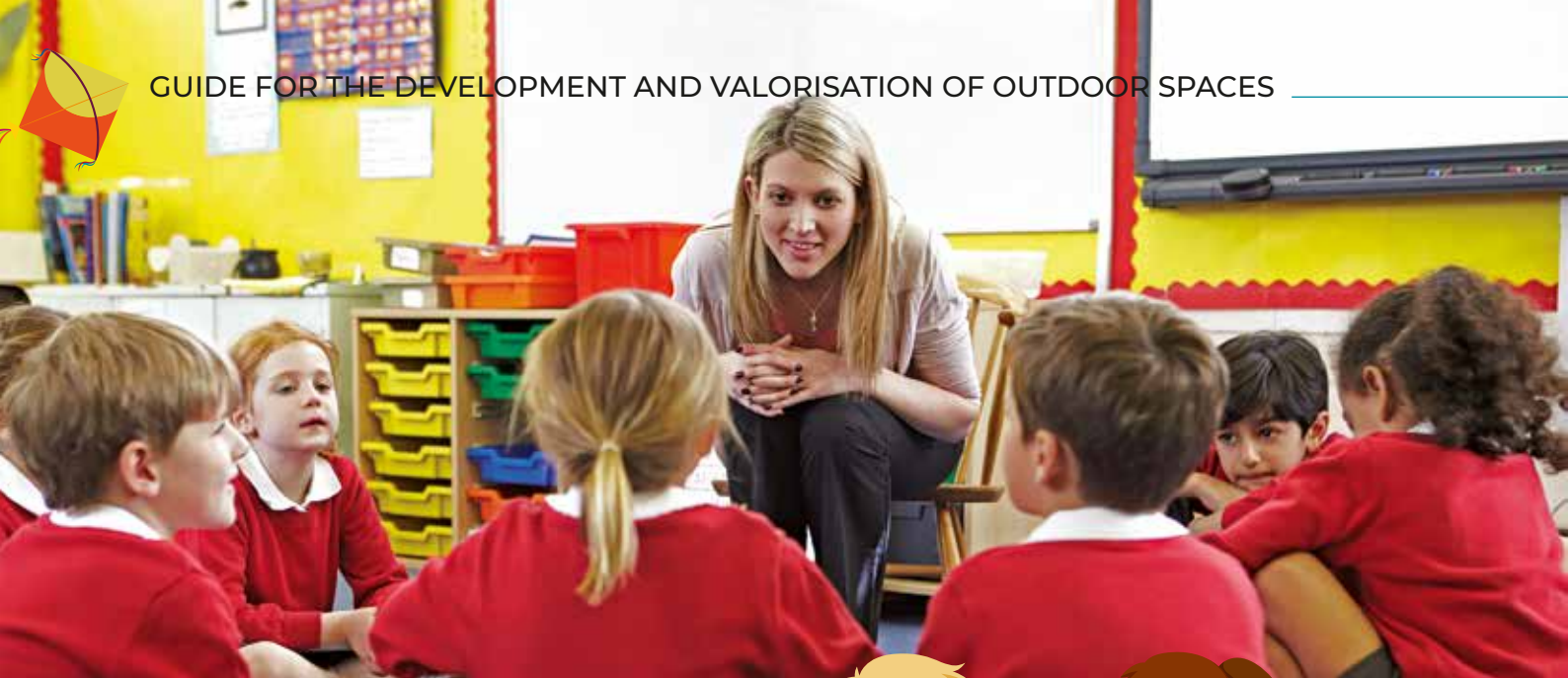
Develop the ability to create something new, constructing, interpreting, re-thinking, and rereading the reality. Explore nature through our five senses, sight, hearing, touch, taste, and smell. Practice sorting impressions and have the peace of mind to process experiences.

#### ■ learn about texture and materials

Examine materials, their characteristics, the possible uses and the inputs they give, widening the learning opportunities.







## Meeting places

Meeting places offer good opportunities for collaboration, exchange of ideas, cross-contamination of play, comparisons, imitations, dialogues, reflection about several issues and phenomena referring to the world of things and the world for thoughts. In this context, the children assembly can be carried out, in a circle or half circle, in order to let everyone, see peers and listen to them with no difficulty. In this occasion, children's past experiences, stories and thoughts play a significant and main role, they are shared and become a democratic heritage of the group for new projects, investigations, and activities.

Using the Seven Cs, a meeting place contributes with clarity and connectivity.

### RELATION TO INTENDED LEARNING OUTCOMES

In meeting places the children will be able to:

#### social skills

Spend time and socialize with other kids, creating a proper and positive relationship based on communication and interaction with the others through verbal and non-verbal languages.



#### language development learning

Develop linguistic communication - listening, comprehension and production skills - to improve one's competences and the relationship with the others.

#### teamwork

Collaborate and cooperate during the activities, while working together.

#### learning and democracy

Talk, listen, and accept other points of view, respecting everybody's opinion.





# Research findings in relation to the eight areas

## Wild area

There are not many studies focusing particularly on 'wild areas'. In general, the studies are generally about 'green area' or 'natural environment', and it is difficult to distinguish between the different concepts used. It is therefore difficult to draw conclusions specifically on wild areas. Research on the topic children and natural environments have been discussed earlier.

Ängård (2016) and Waters and Maynard (2010) describe landscape features that stimulates children's play (and learning). These are: green structures and wildlife, loose flexible objects and materials, diversity of topography, possibility to manipulate natural objects as well as changes in the weather and seasons capture children's attention. All these features are more easily found in wild natural areas. And encourages children's curiosity and interest. Children are asking a lot of questions and interact with the teachers in 'sustained shared thinking'. Pedersen Gurholt and Rønning Sanderud (2016) also highlight the role of natural elements for children's curious play, physical challenges and creation of new knowledge. Many of the results found in studies about gardening are also transferrable to wild areas.

"Most of the forest kindergarten in Europe and around the world, spend their entire school day outdoors, regardless of the weather conditions" (E. Manes, 2016, *L'asilo nel bosco* p.29).

Trees, bushes, meadows are wild contexts, free and devoid of human intervention and experienced daily by children. Permitting children to freely explore natural spaces and materials, through a multisensory approach, allows them to develop creative processes with greater intensity and at the same time offers psychological confidence, acceptance, and confidence in their own possibilities.

The adult has the task of protecting the right of children to explore spaces and materials allowing their direct experimentation. These daily practices underline the importance of error and possible attempts as fundamental elements of the learning process itself and as an opportunity for developing creative thinking in children. "The favourite places for children are the wild, unusual ones, discovered by them, which hide treasures often invisible to the eyes of adults" (M. Schenetti, 2015, *La scuola nel bosco* p.259).

It is the adult's task to accompany children in the wild areas, avoiding dangers and evaluating the risks associated with the environment and the actions they perform, so that they can fully live their experiences.

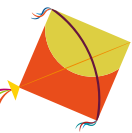
## Secret places

Secret places seem to be important to children in early childhood settings. Children like to have a secret place of their own, but it does not have to be totally out of sight from adult supervision. Children can include some sort of control by imaginative magic power etcetera, and pretend they are not seen. This can increase perceived safety (Colwell, Gaines, Pearson, Corson, Wright & Logan, 2016). In a case study on how preschool children used their school grounds, the importance of a private and adult-free secret places was highlighted (Moore 2015). Children want to construct their own secret place and attach emotionally to their places. It might be in conflict with pedagogical decisions and guidelines, but children need their own space, and knowledge about the importance of secret places for children might support early childhood educators in their practice.

## Garden for all senses

Research in gardening is also closely related to natural areas in general. The aims of including gardening are multifaceted and are for example nature connection (Wake & Birdsall, 2016), knowledge and attitudes toward health and food (Kos & Jerman, 2019; Skeltson, Lowe, Zal & Benjamin-Neelon, 2020) and more general responses from the children (Nedovic & Morrissey, 2013). In a study about coordination between visual perceptions and motor skills, Baker, Waliczek and Zalick (2015) showed that pre-school, kindergarten and grade 1 children who took part in gardening in their curriculum, maintained eye-hand coordination while children in a control group decreased their eye-hand coordination (visual-motor integration).

In a quasi-experimental study of 6-7-year-old children, gardening increased children's knowledge about edible plants and their attitude towards eating vegetables also become more positive (Kos & Jerman, 2019). When children were asked about their favourite aspects of outdoor play in a playground that included many natural elements, their opinion was an "overwhelming preference for natural elements and affordances to be included in the garden" such as plants, water, animals and soil (Nedovic & Morrissey, 2013, p. 286). Comments from the teachers were that the children seemed calmer and more relaxed after they introduced green plants. The

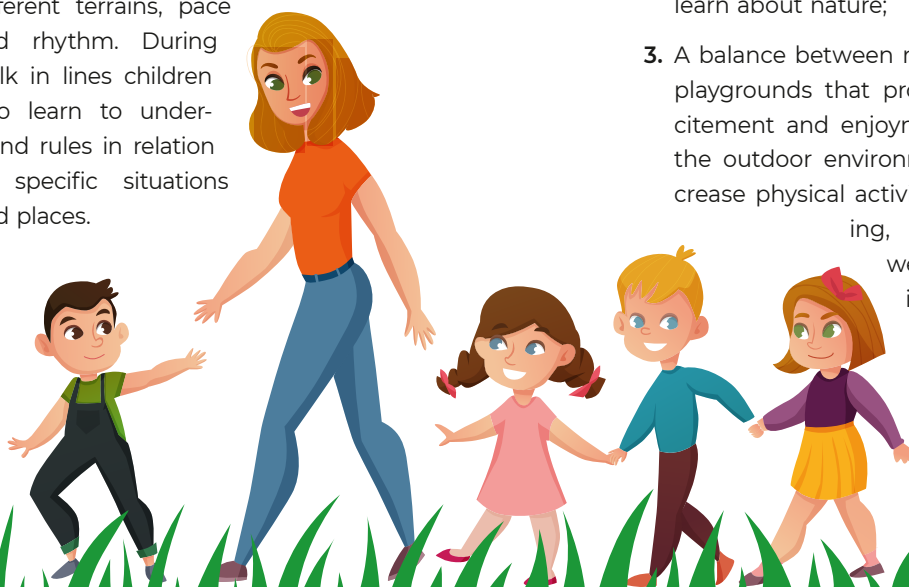


flower beds also promoted small group interaction and loose material increased curiosity and sensuous exploration.

A study about teachers' perceptions about a garden education programme in pre-school settings report that the educators' expressed that the garden programme improved activity and nutrition-related knowledge and also increased social and other academic skills such as vocabulary (Soltero, Parker, Mama, Ledoux & Lee, 2019). In another study about teachers' experiences, Murakami, Su-Rusell and Manfra (2018) conclude that gardening engages children, which in turn is driving force for learning. The teachers reported on genuine interest in insects leading to learning about ecological processes. They did not plan for structured lessons but instead on children's participation in the activities. When doing so the children could explore and practice both fine and gross motor skills. A meta-review of garden-based activities in ECEC come to somewhat different conclusions (Skelton, Lowe, Zal & Benjamin-Neelon, 2020). They found no evidence, in the 16 selected studies, that gardening improved cognitive, socio-emotional outcomes or mental health in early childhood settings but discuss that more appropriate measures for that age group might reveal results more similar to older children where more positive effects are found.

### Learning pathways

There is not an abundance of studies examining learning pathways. One study of a mobile pre-school does however focus on walks in line in different environments outside a school ground (Ekman Ladru & Gustafson, 2018). They draw upon geographer Doreen Massey's theory of space as products of interrelated practices and processes when exploring how children interact with each another and the place while walking in lines. They found that walks in line are to be understood as active and collaborative learning spaces where children collectively learn how to move their bodies in different terrains, pace and rhythm. During walk in lines children also learn to understand rules in relation to specific situations and places.



### Relax zone

Research focusing on relax zones on the pre-school ground is scarce. What can be said about secret places goes also for relax zone. Moore (2015) quote White and Wilson in her discussion about secret places "Time alone, a place for quiet reverie and to be able to silently observe without being seen is well documented as critical for children's emotional wellbeing (p.28).



### Structured play zone

Zamani (2016; 2017) examined children's cognitive play in natural, mixed and structured zones. She found that children mostly preferred mixed settings that incorporated ranges of natural and manufactured elements. Mixed settings provided the most opportunities for functional, constructive, dramatic, and game with rules play.

Supportive outdoor preschool playgrounds for cognitive play behaviours include:

1. Accessible natural and manufactured loose elements;
2. A number of natural settings, in the context of human-built features, that develop ecosystems, provide direct contact with nature, support different learning styles and satisfy children's curiosity to learn about nature;
3. A balance between risk-taking and safe features in playgrounds that promote children's sense of excitement and enjoyment during free play. Play in the outdoor environment has the potential to increase physical activity in correlation with well-being, and children showed high well-being particularly when using pathways and fixed functional equipment (Bento & Sandseter, 2020).



## Outdoor ateliers

In the search on art and outdoor for pre-school children there were only one study found. Kaplan (2020) argues for moving from the traditional planned, outcome based and objective-driven art curriculum and instead open up for increased serendipity and openness for children's own creative processes. In the case study presented, the context is a weekly artmaking lesson on the playground, where the planned and the unplanned merge into an embodied exploration of art. The author emphasises the outdoor environment as unusual for an art lesson and conclude that:

*open-ended inquiry is important not only for young children's understanding of culture, but explorative, material and maker-based understanding allows a kind of nondirected learning in which those in relation (children, teachers, objects, and others) create and construct new knowledge* (p. 28).

An outdoor atelier, that is always present and ready to use, can be a promising way to increase serendipity in children's painting, and letting them paint in a more free and embodied way. If the atelier is always there it is easier for the teachers to 'catch the moment' when the children show interest in painting or there is something interesting to be painted.

There are other studies on the theme of atelier, considered in broader sense as a creative place that embrace different expressive languages. The educational space of the atelier becomes the tangible and symbolic space where children and adults build identities, relationship, and knowledge. A place that transforms and transforms itself in relation to the paths of discovery and research of children, to the adults' proposals, and to events both calculated and unexpected. A place that put different and multiple languages in dialogue, by which each child expresses his own way of being, knowing and learning. "The connections and interweaving among different disciplines and languages of the atelier often produce a shift in predefined points of view and foster a more complex approach to problems, revealing the expressive, empathetic and aesthetic elements concerning each specific discipline or problem." (V. Vecchi, 2017, in *I cento linguaggi dei bambini*, p.305.)

The development and consolidation of learning is also made possible by the presence of materials in the atelier. Materials that are rich and accessible, various in quantity in quality, and offer continuity and newness at

the same time. Unstructured materials, industrial waste, recycled and natural materials: "Materials not oriented to a unique and predefined use, but which suggest open combinations, and which provide for the possibility of flexible and composite actions" (M. Guerra, 2017, *Materie intelligenti* p.17).

In the outdoor atelier, opportunities for research with materials and objects, experiments and insights take place daily, thanks to the solicitations of adults and children.

Stimulating the learning process and "promoting creative thinking means designing and proposing a place where children are given occasions and opportunities to broaden their mental field, to experiment and play with ideas, to try to combine and connect experiences and thoughts" (Gariboldi e Pugnaghi, 2020, *Educare alla creatività* p.7). For these reasons, children's knowledge processes can be qualified as creative processes.

Vygotsky (himself) speaks of creativity as an attitude inherent in all human beings. His thought has significantly influenced other Italian authors, such as Bruno Munari who emphasises the importance of process compared to the product development, or Gianni Rodari who associates terms such as creativity, fantasy and imagination and finally Loris Malaguzzi who qualifies "the creativity as a characterisation of our way of thinking, knowing and deciding" (Malaguzzi, 2017, *I cento linguaggi dei bambini*, p.98).



## Meeting places

There were no studies found in relation to physical outdoor meeting places, using the search word 'meeting places' but one study discussed the importance of meeting places in terms of children's narratives (Puroila, Estola & Syrjälä, 2012). In their study the narrative is the meeting place where children build relationships, tell, listen and face and solve problems, but they also argue for a pedagogical environment where non-physical meeting places are available for children's everyday narratives, and this includes resources such as time and 'ideological and moral space that value children's expressions' (p. 203). Drawing upon this research, also physical meeting places where children and teachers can meet in mutual sharing of experiences and story-telling are important. Meeting places in a broader perspective is important in ECEC where children's perspectives are in focus (e. g Sommer, Pramling Samuelsson &





Hundeide, 2013). In order to facilitate for adults to meet and listen to the children, physical meeting places, set up for this purpose, can be important places where children can share their thoughts and experiences.

Although no research has been identified on the specific theme of “outdoor meeting places”, there are several Italian pedagogical approaches that underline the importance of relationships, meetings and exchanges



among children, as fundamental elements to stimulate and widen their knowledge processes.

“The relationship and communications developed in the educational context stimulate the sharing of creative ideas and strategies creating different explorations, research and constructions among adults and among them and children [...] Often the quality of spaces favours dialogue, reciprocity and exchange.” (L. Gandini, 2017, in *I cento linguaggi dei bambini*, p.322 e 324.)

“Is not a question of educating to an attitude to the natural world rather of educating to pay attention to the relationships and meanings that children build with us and with the world [...] to the meaning and senses they build by experiencing their relationship with the world, the experiences on which children are intentionally related to living objects and things, and where care is taken so that this relationship is full of meaning.” (M. Schenetti, 2015, *La scuola nel bosco*, p. 267).

## One example of an activity tested for each area

This section presents a description and an evaluation from the pre-school teachers of one activity per area. Pre-school teachers in each country have designed at least one activity per area (see table 1) and pre-school teachers in another country have tested one of the activities and given their feedback in an evaluation form.

When designing the activities, the pre-school teachers categorized them as belonging to three different areas of learning and development. The areas are **cognitive learning** (mathematics / science/art language / technology / sustainable development), **self-empowerment** (nature contact and health promotion) and **skills** (gross/fine motorics, social skills etcetera).



	Wild area	Secret places	Garden for all senses	Learning pathways	Relax zone	Structured play zone	Outdoor ateliers	Meeting places
<b>MOTALA SWEDEN</b>	■ Sink and float	■ Bug hotel	■ Food forest creation and management	■ Paths on walls and sidewalk	■ Relax under the sun	■ Treasure hunt	■ Create our new landscape	■ Outdoor kids' assembly
<b>CARDET CYPRUS</b>	■ Insects' restaurant ■ Research and evaluation of natural elements	■ Finding myself	■ Aroma garden	■ Barefoot path	■ Laughter yoga	■ Treasure hunt	■ Stone decorative transformation workshop	■ Lemonade
<b>CASALGRANDE AND SCANDIANO ITALY</b>	■ Restaurant for bugs	■ The anger	■ Scents to catch	■ Pathways on trunks	■ Relax under the sun	■ Creating a scale	■ Stone transformation	■ Fruit salad
<b>DAUGAVPILS LATVIA</b>	■ Restaurant for insects	■ Secret hut builders	■ Handmade candle sticks	■ Barefoot path	■ Relax under the tree	■ Mud kitchen ■ The music wall	■ New perspective ■ Stone transformation	■ Insects' party





## Wild area

### RESEARCH AND EVALUATION OF NATURAL ELEMENTS

The outcomes in this activity are related to **cognitive learning, self-empowerment, and skills.**



#### Main task/question for the children

How do the children approach the discovery of outdoor spaces? How can the exploration of the outdoor encourage the children to get to know other people and new spaces? Possible challenges for the pupils: Exploration, research, self-awareness and self-confidence.

#### General goals and learning objectives

To increase familiarity towards outer spaces and reduce danger perception at the same time, observe, pick up, collect, name natural elements, develop elements and situations of interest for the project intent.

#### Description of the activity

The activity takes place every time the children go outdoor, especially to the nursery school garden. They go out in small groups or all together and carefully start to explore every single detail. Every object acquires value and significance in the moment when it is observed, picked up, evaluated, and chosen. We receive

an impression from every object due to its appearance and the memories it causes, it raises feelings and meanings that we have already felt, it draws our attention for its recreational, narrative, and exploratory potential. Children prefer to get close to the ground and carefully look at everything that catches their eye: leaves, pebbles, branches, insects, grass, hedges, trunks, barks, etc. Children are able to discover elements on the ground that adults don't notice and pick them up for their special collections. The children can interpret the reality that surrounds us, avoiding shallowness and habits, enhancing the differences by highlighting them. This way, children are not only able to explore interesting details for them, but they can also get in touch with each other and with nature, cooperating and increasing relationships by sharing feelings and thoughts.

#### Suggested steps to organize the activity

1. It is necessary to define a calendar of the place occupation into the working group, in order to avoid the overlapping of groups.
2. Then, during the morning assembly with the children of the section it is essential to decide how to search for natural elements, which paths to examine and what kind of instrument should be used (shoulder bags or baskets, magnifying glasses, binoculars, paper, or digital notebooks, etc.).

#### Materials to be used

Shoulder bags, different sizes and shapes of containers, magnifying glasses, camera, binoculars, paper or digital notebooks, trowels, rakes etc.

#### Evaluation of Research and exploration of natural environments

The children needed some encouragement in the beginning as they were just walking around and did not really explore the area. Some children just followed other children. The teachers also noted that it is important that you, as an adult, show enthusiasm and model the activity so the children understand and can follow. The children explored the school yard in all directions, looking at the ground and up in the sky. They also touched leaves and petals, hugged trees and explored insect nests. The children mostly enjoyed sharing their experiences with each other, for example "I will show you something very special" and expressed and shared concern for other species, "be careful, you must not throw soil in the ant hive because the ants will be sad". As the children were comfortable with the place, the school yard, they felt free to explore, and because they usually play with plastic toys, they showed interest in exploring different objects such as trees, vegetation, and animals. The small group gave all the children opportunity to share their experiences and a reflection from the teachers were that they observed things that have been unseen for many months.



Examples of children exploring natural elements in Wild Area (Cyprus).



Examples of a child carefully looking at natural elements in Wild Area (Cyprus).



Examples of children exploring natural elements in Wild Area (Cyprus).





## Secret places

### FINDING MYSELF

The outcomes in this activity are related to **cognitive learning, self-empowerment, and skills.**

#### Main task/question for the children

To manage emotion, self-control and self-regulation.

#### General goals and learning objectives

The goal of this activity is to help children recognize, express and control their emotions, so that in case of crisis they can control and regulate themselves. This activity gives to children the ability to recognize and express their feelings using alternative ways to violence or /and anger so that they can develop self-control. Introducing children to various ways to express their emotions will help them to react calmly and control themselves in difficult emotional situations. Possible challenges are to find ways to calm themselves down and re- enter the group.

#### Description of the activity

The teacher starts with a story about an animal-hero who had a conflict with a friend and was very upset. He needed some time alone to think. Children have to help the hero to find

a good place to isolate and think about what happened. The teacher together with the children goes to the yard to search for an appropriate place (in the yard there is already an Indian tent made of natural materials).

Children might suggest the Indian tent.

The group gathers there and discuss about what makes it a good place to isolate (in the tent there is a teddy bear, a pillow, paper, pencils, massage balls and an emotion scale).

The teacher demonstrates the use of the materials in the tent. In order for the activity to be successful, kids must feel empathy for the hero of the story, so that they would want to help him/her, activity needs to help children develop self-control. The activity will be successful if children use the secret place to calm down /manage their feelings when conflicts occur during outdoor play.

#### Suggested steps to organize the activity

1. Tell a story about a bear that argues with a friend.
2. Place an Indian tent made of natural materials in the yard (stubble and cloth)
3. Prepare the materials in the tent: teddy bear, pillow, papers, pencils, massage balls, calm music.
4. Prepare the emotion scale (laminated paper with a scale, emotion icons-happy, sad, angry, scared with Velcro and kids figures-boy/girl).

#### Materials to be used

In order to the activity to be implemented, we will need the following material: Improvised story, Improvised tent, A pillow, A Teddy bear, A paper, Pencils, Massage balls, Emotion scale.

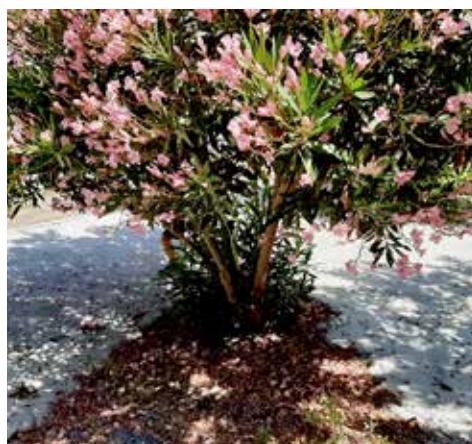
#### Evaluation of Finding myself

The activity worked smoothly. The children felt empathy for the hero in the story and wanted to help him. They searched in the outdoor environment for elements that could help someone to relax and were asked to think about what calms them down in order to expand on that thought.

The exploration of the environment worked well the children came up with a lot of different ideas of areas that are good to use. They suggested a quiet place among the trees or an imaginary place in nature. Many children suggested the Indian tent and they all gathered there in order to summarize what the good elements for a place to calm down are and what elements that could be used. The children reflected on what made them to calm down and maintain their control in order to figure out how to help someone else to do so. Some children only mentioned time as a factor but with some further discussion, children came up with a lot of different places and factors. They mentioned all the available elements in the tent: a teddy bear, pillows, paper, pencil and massage ball and some of them tried them on the spot and reflected on what they will do in the future in similar situations.



Child hiding in the Secret Place (Cyprus).







## Garden for all senses

### FOOD FOREST/GARDEN CREATION AND MANAGEMENT

The outcomes in this activity are related to **self-empowerment** (nature contact and health promotion).

#### Main task/question for the children

How is the well-being of our food- forest?  
Does the ground need to be watered?  
Does the soil require to be mulched?

#### General goals and learning objectives

To develop a sense of affiliation to the school, enhance respect for nature, observe the natural elements and reflect upon anthropic ones; to improve caring skills, responsibility and constancy.

#### Description of the activity

The activity is proposed to the children of a small class group. Together with a teacher, they observe the changes of the food forest during September and October, after the interruption of the summer period. Thanks to the help of the food forest's caring handbook, previously prepared by teachers during a training course, they are ready to mulch the soil. Once a week the children check if the ground needs to be watered and if there are any changes to be noticed and to share with their friends.

#### Suggested steps to organize the activity

1. Plan the practice in the staff to decide which classes will be involved in the caring program.
2. Check the materials.
3. Talk with the children of the class to create curiosity, organize the groups and the activity calendar.
4. Go outside.
5. Gather to communicate with friends.
6. Document the activity (with 5-year-old children).

#### Materials to be used

Garden utensils, gloves, newspapers, water, buckets, compost, green organic refusals (salad, peels, green waste, coffee, tea, etc.) straw or hay, cardboards, seeds; folders for documentation, cameras, notebooks, magnifying lenses.



#### Evaluation of food forest/garden – Creation and management

The children follow the small plants that we have started to pre- cultivate inside, with interest and are eager to help with the watering. The children have been outside and been digging the soil to make it ready for our plants and seeds. The children are enthusiastic and some of them remember last year's harvest. For the children that have memories from past years, it helps them with a sense of context. So, the activities around this area is a continual process. The teachers answer their questions and find that they share their thoughts with each other about what will grow and what they like to eat. The children find it exciting to plant different seeds, dig in the soil and they have their own wishing list for what they want to plant, but pre-cultivation is necessary in our climate. They

like digging, getting dirty, watering and of course see result. It is important that the vegetable garden is placed in connection with the kitchen, our chef is involved in what we grow and when we harvest. She is an active part in teaching about different foods and talk with the children about nutrition and what the children's bodies need to grow strong, much appreciated! It's also important that taking care of our garden becomes a common interest, so we help each other with watering, thinning, and harvesting.

The teachers have done the activity in quite unstructured groups where all the attending children have been welcomed to join. From an educational point of view, they suggest it might be better to have structured groups that

have lessons around the vegetable garden. On the other hand, they say that it is joyful to see when the children engage in the process and individually learn about different herbs, vegetables and fruits. A crazy idea that they fulfilled was when the children wanted to plant a sandwich and a cucumber. The teachers decided to follow the idea, but next step was to joke with them on April 1 – April Fool's day. April the 1st at breakfast the children saw a sandwich tree and a jar with cucumbers in the vegetable garden. The three- and four-years olds were really excited and didn't question what had happened, but the some of them and the five-year olds were sceptical, and the teachers told them about April Fool's day – sometimes it's important to laugh together.





## Learning pathways



### BAREFOOT PATH

The outcomes in this activity are related to **cognitive learning, self-empowerment and skills.**

#### Main task/question for the children:

To experience learning through the senses, developing different perceptual abilities.

#### General goals and learning objectives

To improve children's knowledge that walking barefoot on various natural surfaces can strengthen and harden the body, strengthen the leg muscles, ligaments, joints. To promote the development of a sense of balance and inner stability, both physical and psychological. Gently activating the nerve endings in the footprints will have a beneficial effect on the whole organism. Encourage children to feel the physical influx of energy in the body, the liveliness of absorbing the earth's energy and giving away excess. Possible challengers for the pupils are to guess, with their eyes closed, what material they are walking on, describe their feelings.

#### Description of the activity

The teacher, in collaboration with the children, jointly discusses the design of the barefoot path project development plan, makes suggestions,

after hearing others, and agrees on where the path will be located. Encouraging the exploration of nature, the natural materials available in the area of the pre-school institution are collected, and the natural materials brought in by parents are examined and sorted. Children are encouraged to take advantage of the opportunities offered by nature to develop healthy lifestyles in urban settings. Ideas are put forward on how to place natural materials in zone bands, and how to alternate adjacent textured surfaces.

The child is offered to blindfold and walk on all surfaces (either the teacher or another student can take him or her), and as the child goes on, he or she determines what nature it is and what feelings it causes.

Practically working in the fresh air, children deal with practical issues - from where the material, its properties.

#### Suggested steps to organize the activity

1. Preparation of a site for the construction of a barefoot path in the area of the pre-school establishment.
2. Procurement of natural materials.
3. Establishment of a footpath with successful combination of different surface areas.
4. Approbation of the newly created trail, sharing impressions.

#### Materials to be used

Spruce, pinecones; wooden disks, cubes, piles; sand, gravel, wooden corks, bark mulch, reeds, moss; expanded clay; chestnuts, clay, water, etc.

#### Evaluation of Barefoot path

The children decided which material to use for the path and the teachers and children prepared it together. They first walked the path with open eyes and then blindfolded and they were very excited as this was a new activity for them. They enjoyed it although it was at first difficult for some of them to balance with naked feet.

They cooperated and was very concentrated when walking the path so they could feel the different materials. They continued the activity by walking barefoot on various natural surfaces.

The activity encouraged children's self-esteem and mettle.



Children experiencing the Barefoot Path in Daugavpils (Latvia)







## Relax zone

### RELAX UNDER THE SUN

The outcomes of the activity are related to the outcome **self-empowerment** (nature contact and health promotion).



### Evaluation of Relax under the sun

The activity instructions were clear and helpful, so the preparation was easy, and the activity went very well. Some children found it difficult because it was a new activity but most of them enjoyed it. They were all aware of the use of relaxing and why the body needs to relax. Nothing unexpected happened, but the teachers noticed that they need to practice more to make the children comfortable. The teacher's believed that this was a very good activity as it gave a lot of inspiration to continue with this kind of activity and to make sure this relax area is a part of the school yard.

### Main task/questions for the children

How can relaxation bring out a new self-awareness? In a relaxation zone, how can personal experiences and stories among children emerge?

### General goals and learning objectives

To increase familiarity with the natural elements present in the garden, increase self-control, bring out imaginary narratives, share socialization experiences.

### Description of the activity

The activity takes place when the children lie down or sit on the ground on a blanket of grass, rather soft and pleasant to touch, or on a blanket. Lying or sitting they can tell personal experiences, recognize and express their emotions, tell or invent fantastic stories. In this way, children can relax, express and recognize their emotions, enrich their vocabulary with new words and new reflections drawn from the reflections of other children. Possible challenges for the pupils are awareness of one's actions, emotions, imagining and telling.

### Suggested steps to organize the activity

1. It is necessary that there are no other children in that space in order to listen, reflect and not be distracted by other children or adults.
2. If you want you can put a sheet or blanket on the ground, but it is not essential.

### Materials to be used

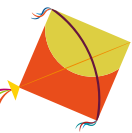
You can use a blanket, a note, a camera or a video camera to capture the dialogues and gestures of children.



Children relaxing under the sun in the Relax Zone (Italy).







## Structured play zone

### CREATING A SCALE

The outcomes in this activity are related to **cognitive learning** and **skills**.



#### Main task / question for the children

Understanding of the concept 'weight' –heavy, light, balance.

#### General goals and learning objectives

We have made the children conscious about how they can impact the result when they use the teeter and we have introduced buckets with different content and weight in one of our groups. This activity intends to broaden their knowledge around weights, density and make them explore on their own.

#### Description of the activity

we will build the scale together – but I as a teacher intend to prepare the pieces and let them use the scale with different things in the buckets. Possible challenges for the pupils are to use different objects to explore - for example - try to find equilibrium.

#### Suggested steps to organize the activity

1. To buy and collect all the necessary equipment.
2. Together with colleagues decide on where to put the scale
3. Set up some rules about the use of the scale
4. Introduce the children
5. Hold the activity
6. Document the activity
7. Evaluate

#### Materials to be used

Wood sticks, hooks and ropes, buckets. Natural materials to put in the buckets such as pinecones, sand, pegs, stones.

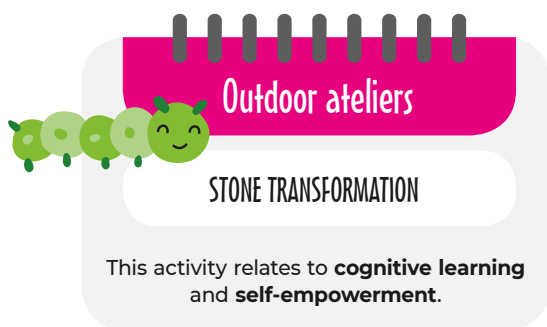
#### Evaluation of Creating a scale

The children approached the experience in a curious and enterprising way, they showed interest and attention to enrich their research with concepts and contents. The children were first involved in the research of materials and then in the construction of the scale. The part that involved them most was the construction of the balance: the choice of the appropriate material, the right position of the twigs to find the balance, but above all to understand its functionality. The children have been very cooperative with each other, respectful of their ideas and actions. The teachers observed how in the discussion the children were concentrated in listening to the words of their friends and then starting from their ideas and adding fundamental elements, useful for the realization of a collective thought. The teachers conclude that the experience not only brought to light concepts of weight, balance, and measurement, but also strengthened the idea of being able to share and experience together. All the elements: the small group, the presence of the natural materials at their disposal, the possibility to use them and to build something together allowed for collaboration and complicity among the children.



Children building a scale (Italy).





### Main task/question for the children

Paint stones develop children's creativity and see the beauty and the uniqueness of nature in simple things.

### General goals and learning objectives

Participate in the creative workshop - stone painting activity "Nature to be!" Children are offered to draw what nature means to them, what is beautiful in nature, what nature should be. Place the painted stones in the spiral of the stone labyrinth. Children tell about their own drawing - what and why is drawn on stones. Children develop an aesthetic perception of nature, love for the world around them.



### Description of the activity

The teacher and children watch the collected stones, sorts them, and plan the design of stones.

Once you choose colors, other accessories start working in the creative workshop. On the stones may be drawn landscapes, insects, birds, animals, flowering plants and natural phenomena.

The activity provides an opportunity to choose a variety of materials in the workshop, inspiring children to act according to their imagination, encouraging them to spend their free time creatively and interestingly, acquiring new skills.

### Suggested steps to organize the activity

1. Collection and purchase of stones, pebbles of different sizes, shapes, colors.
2. Sorting of stones for painting activity to create a labyrinth, mosaic, etc.
3. Placement of paints and other additional material in the creative workshop.
4. Providing opportunities for using painted stones in everyday outdoor activities.

### Materials to be used

Stones, pebbles of various sizes; gouache and acrylic paints, brushes, containers for water, markers; rubber, feathers, yarn, building materials, wire, beads, etc.

### Evaluation of Stone transformation

The experience was made in the garden of the nest, using a wooden pallet as a base and logs. The external context can become an atelier, a place where different expressive languages can be enhanced and enriched by contact with nature. One child observes the stones and seems to evaluate their shape before choosing the stone to paint.

The children seem to be very intrigued by the transformation of colours and shades that take place in the tray with the movement of the brush.

The children start painting with great care and attention, they observe the stones and seem to evaluate their shape before painting them. Then they seem to make careful choices about the stones and natural materials to be placed on top of the trunk. They seemed most interested in the direct contact with the colour, the possibility to mix creating colour transformations on natural materials. Unexpected was that the teachers noticed that a child preferred to dip the natural material directly into the colour tray. All the elements: the small group, the presence of various natural materials, the possibility of experimenting with color both directly and with the brush has made it possible for children to "immerse themselves" completely in the experience.



## Meeting places

### OUTDOOR KIDS' ASSEMBLY

The activity is related to **cognitive learning, self-empowerment and social skills.**



#### Main task/question for the children

How can the external reality remind the children about situations, feelings and stories?

#### General goals and learning objectives

Increase spaces familiarity and create new forms of listening and dialogue between children, observe and develop elements and situations of interest for the project intent.

#### Description of the activity

The activity takes place two times a week with the big or the small group according to the nature of the assembly (morning or patrol one). The assembly is an essential and central moment of the children's day. Children sit down in circle and talk about what is important for them: like experiences of the previous day in the nursery school, particular moments from the night or the day before at home. They can read books, tell stories and each one of them can tell about what he/she thinks or what comes to his/her mind for sharing it with the other

kids and with the teachers. In order to spread out thoughts, we decided to gather outside into our garden for both the morning and the patrol assembly, in order to let the children, receive suggestions from the open air and outdoor context. The patrol assembly is carried out together with a small child group right after the conclusion of a research. The children who explored and investigated around sit down and begin to tell about the kind of researches they have made and the ideas, strategies and impressions they had. The way children compare and share these experiences becomes a chance for the whole group to enhance its opinions, get to know different points of view, deepen and acquire new essential knowledge for their learning: evolutionary earnings. This way, children are not only able to share experiences, theories and thoughts, but also to review, communicate and explain them, in order for their reflections to become a common base of knowledge.

#### Suggested steps to organize the activity

1. It is necessary to define a calendar of the place occupation within the working group, in order to avoid the overlapping of groups.
2. It is necessary to include all the children and the teachers of the section have to make some photos and take some notes.
3. They also have to support the dialogue trying to make all children speak and to ask interesting questions that are still unanswered to the group

#### MATERIALS TO BE USED

Camera, paper or digital notebooks, video camera, possible picked up materials, etc.

#### Evaluation of Outdoor kids' assembly

Overall, it went very well, the children talked open and listened to each other. Four of the children had helped doing the meeting place so they were happy to use it. The general goals were to "create new forms of listening and dialog between children, observe and develop elements and and situations of interest for the project intent" – the goals were achieved, this was a new way for the children to evaluate the project since it was a new constellation of children and a new place to meet. The children shared their experiences, first with some help from the teachers but after a while they talked freely. They liked the new meeting place, they were interested in what the other ones learned and what they had done the same and not the same. It was a positive experience since the children did not know each other but still were so commutative in the group. It actually led to new ideas how to develop the project. The teachers believed this was a very good activity; it gave a lot of inspiration to continue with this kind of meetings and to make sure this meeting place is a part of the yard.







## Description of the process and methodology used by the partners

### DESCRIPTION OF THE PRESCHOOLS

The partners in the project came from four countries: Cyprus, Italy, Latvia and Sweden. The preschool teachers from Cyprus came from three preschools and the children were aged three to six years. They were up to 25 in each class. There was one main teacher per class, but every class had an assistant second preschool teacher. The preschool teachers from Italy also came from three preschools. Number of children in the Italian preschools were 25 per class and there were two to three teachers in each class, while in the nursery section there were 14 children with 2 educators or 21 children with 3 educators. One preschool participated in Latvia and it was a large preschool with 230 children divided in 12 classes, which means approximately 19 children per class. Each class had two teachers, and the children were one to seven years old. There were three participating preschools in Sweden and the children were aged one to six years old. The classes consisted of 16 to 25 children per class and there were generally three teachers working in each class.

### MATERIAL FOR COLLECTING INFORMATION

The material used to collect information about how the teachers evaluated the tested activities came from two sources. The post-reflection form that was used was a document already in use in the preschools of the municipality of Motala. Some minor adjustments were

made to better suit the project. The form consisted of first a description of the context and possibility to include words and actions of the children during the activity. After followed 12 questions to reflect upon after the activity. An observation protocol was used in addition to the reflection form. This protocol was used in the municipalities/preschools of the partner organizations during the testing of the practices in order to collect data through the direct observation of the children in action.

### WORK PROCESS

The work process during the project has consisted of six transnational project meetings, where the project partners (except for the preschool teachers involved) met, and two more training seminars when all participating pre-school teachers gathered. The meetings involved group discussions on central topics for each meeting, as well as input from presentations from experts in different disciplines, study visits to pre-schools and research literature. At each meeting, steps for the future work have been decided together with the guidance of Sweden Emilia Romagna Network (SERN). Between the meetings the different pre-schools participating in the project has worked with the development of their school grounds and with developing outdoor activities for different settings, based on the outputs from group discussions and other training activities. The participating countries have contributed with insights concerning the cultural diversity in ECEC



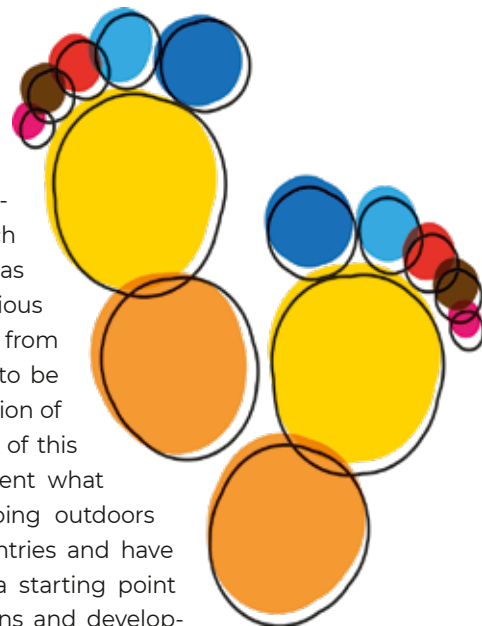
settings. This knowledge has been valuable in the discussions on the design of outdoor environments and activities. Another important contribution has been the involvement of experts from other academic fields, for example environmental psychology and permaculture design. The experts have participated in group discussions at the training seminars and have also shared their knowledge through plenary presentations.

### THE WORKFLOW DURING THE THREE YEARS LONG PROJECT

#### FIRST COORDINATION MEETING

During the first coordination meeting, the partner discussed their pre-schools staffs' previous experience of outdoor learning and what kind of outdoor learning that was practiced in the different countries. The partners also discussed what areas of learning they wanted to focus on and decided on three areas, cognitive learning (in different subjects), learning and self-empowerment (nature contact, health promotion) and learning and skills (fine/ gross motorics, social development). One of the innovative ideas in this project was the contribution of expert from other fields and a list of experts to invite was made.

The next step was that the pre-schools in the four countries planned for an outdoor activity connected to each of the target areas and a template previous used by the partner from Cyprus was chosen to be used for the description of the activity. The aim of this activity was to present what we were already doing outdoors in the different countries and have these examples as a starting point for further discussions and development.



#### FIRST TRAINING SEMINAR IN SCANDIANO-CASALGRANDE (ITALY)

At the first training seminar including all the pre-school teachers, invited experts (from the fields of education and environmental psychology) gave presentations on the three suggested areas of learning (cognitive, self-empowerment and skills) and other invited experts presented successful practices in the field of outdoor





learning. A study visit to a local pre-school added further input for group discussions.

The participants took part in different workshops and could explore a food forest in closer detail. The discussions provided opportunities to reflect on contribution from the experts in light of the variety of cultural contexts concerning outdoor learning in the participating countries. It also stimulated reflections on how places, and what places, were generally used for outdoor play and learning. Challenges, potentials and what the different partners wanted to achieve and develop in terms of their school grounds and use of it for outdoor learning purposes was also discussed in smaller groups. Questions to depart from were provided by the presenting experts and they were the following:

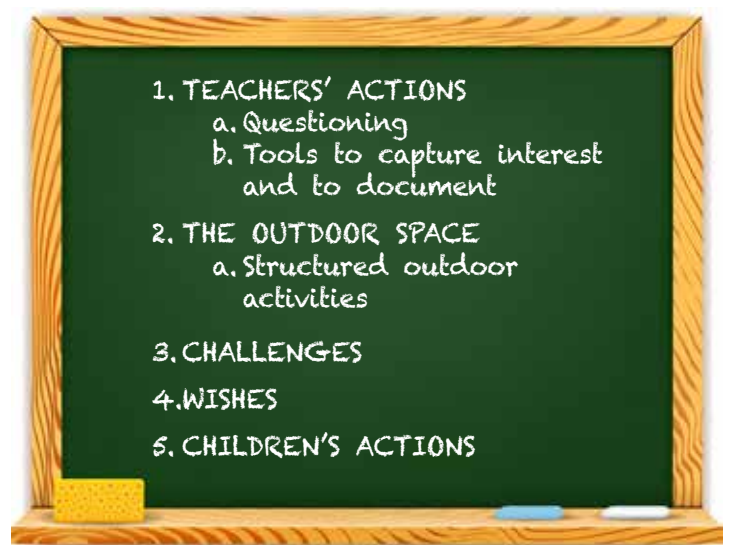
1. How can a good balance be achieved between child-initiated and teacher-initiated learning experiences?
2. What kind of environments stimulates children's curiosity, engagement and questioning?
3. What are the challenges with teacher-led versus child-initiated outdoor learning?
4. Which are the tools you use to track and capture the interest and the questions of the children?
5. Are these tools useful to support the experiences?
6. Which habit or behaviour would you like to stop or avoid to better support the learning process of children?
7. How to take into account children's need of restoring cognitive resources?
8. How to take into account children's emotional bonds to place?
9. How to create place for play? Learning? Play and learning?
10. Which are the favourite places children love to go to?
11. Where do I see children learning something?

## SECOND COORDINATION MEETING

At the second meeting an analysis of the developed activities was presented and discussed. A conclusion was that many of the activities did not really take into account the outdoor place, they were rather place-ambivalent and could have been done anywhere. If the aim is to develop the outdoor school grounds, the activities should preferably be more place-based and relate closer to actual places on the school ground. Some activities were based on a lot of preparatory work, and parent's and expert's involvement. In order to present activities that are easy to use in a multitude of contexts, a decision to focus on activities that can be conducted by the pre-school teachers themselves was made. A notified dilemma was the balance

between child-centred and teacher-led activities. Previous research argues for the importance of child-initiated learning during free play, where 'shared sustained thinking' between children and adults is a desired and productive result. The focus in this project is teacher-led activities but the importance of a child-centred approach was discussed as desired.

An analysis of the group discussion at the revealed that mainly the following themes were discussed. The themes are presented in order of their prevalence. Teachers' actions are more in focus than children's actions. This is partly explained by sharing of each other's practices.



In the work of developing the outdoor areas (IO1) a model for designing outdoor spaces was presented. The model is called the 'Seven Cs' and has previously been presented. The model was discussed by the partners and was found to be helpful for the continuous work process.

## SECOND TRAINING SEMINAR IN MOTALA (SWEDEN)

Following up on the coordination meeting among the partners, where the pre-school teachers did not participate, a second seminar with all participants were held. Here the focus was mainly on the outdoor spaces.

The 'Seven Cs' was used as a framework for group discussions where an ideal pre-school ground was to be developed. How do we want it to look like? What areas should it include? Invited experts contributed with presentations and in group discussions.

The experts had expertise with relevance for children's outdoor environments such as environmental psychology, environmental and sustainability education, permaculture design and outdoor education.

Two study visits to local pre-schools were conducted and the participants took part in a workshop about outdoor learning in science and technology.



At the end of the meeting all groups presented a summary of their group discussions included the kind of areas they found important on a tentative pre-school ground.

### THIRD COORDINATION MEETING

Following up the outcome from the meeting with all participants, at a third meeting the partners decided the eight areas believed to be important on a pre-school ground where qualitative outdoor learning could take place. The areas were selected on basis of the group discussion about the Seven Cs' and tentative ideal pre-school grounds.

These areas would make the basis for IO1 and should be related to learning outcomes and national curricula in IO1. A study visit to a local pre-school was conducted and provided inspiration for the coming work with developing new activities for IO2 and IO3.

After this meeting all pre-schools further developed activities that could be conducted in the different areas.

They were related to one, two or three of the areas of learning decided at the first meeting (cognitive, self-empowerment and skills). In total a number of 40 activities were developed (see table 1).

When this work was completed, the participating pre-schools chose one activity for each area and tested it in their own context. After, they evaluated it by using the evaluation form.

## THE WORK PROCESS IN THE DIFFERENT COUNTRIES

### LATVIA

After each seminar and meeting with partners, we introduced teachers to the experience of other countries, watched videos, photographs, and discussed ideas. We tested those ideas that seemed most acceptable to our conditions and interesting. To carry out practices and test the experience of other countries, project participants, a working group was created in a preschool

institution. The group consisted of teachers who work with children of different ages. The working group prepared in advance for each season and prepared new objects.

We collaborated very actively with our parents. Parents helped in the creation of educational objects on the territory - a musical wall, a labyrinth of stones, sensory paths. They brought various natural materials (stones, moss, sea sand, cones, chestnuts ...) to create sensory paths, sensory tree and household, kitchen utensils to create a musical wall.

For the work, not only teachers were involved, but also technical workers who worked with wood, created the foundations for educational objects. Each activity was discussed in a group, the teachers chose the area on which they would like to work. The group discussed the form of analysis of the practice, took photos, videos, and made notes. Parents and other teachers were familiarized with the results of the activities.

The teachers shared the results of summer practices with other colleagues. The working group paid special attention to reflection, what aroused the greatest interest in children, where problems arose, as well as children's reactions to a problem situation. The teachers came to the conclusion that due to the fact that during the practice phrases, emotional statements of children, activities had a lot of meaning.

### SWEDEN

The working group with preschool teachers has regularly met to exchange experiences. They have disseminated and mediated the knowledge in their preschools at workplace meetings and study days. They have shown and described the activities carried out and the developed zones. The activities that were to be carried out and evaluated were also distributed among all employees.

An effect of this was that a greater understanding of the project's content was created. The work has also



been continuously presented in the preschool's management group, where principals of all the municipality's preschools participate.

Cooperation is carried out with our property management. The project is the basis for planning new preschools and their outdoor environments as well as the renovation of existing ones.

The preschools have started to make small changes in their outdoor environments and when purchasing new material with their own funds.

In summary, so far this project has given us a lot of inspiration and innovation around our outdoor environment. Collegiate learning has been an exciting and educational part both from colleagues from the other participating countries and colleagues here in Motala. Exchange of experience and practice from the other countries has given us the insight into how different conditions we work under, but that we still share many pieces in our mission.

At present, more and more planned teaching takes place in our outdoor environment, to which the project has contributed. A greater understanding has been created for educators' participation in the children's stay in our outdoor environment.



## ITALY

Our working methodology is characterized by listening, confrontation, exchange of ideas, in a continuous and constant way in groups both among children and adults. This is what happens every day, and this is what we have implemented in the 0/6 educational institutions during the design and implementation of the Dehors project. In July 2019, after the 2nd meeting in Motala, a meeting was held with the teachers who had participated in the experience for the sharing of what emerged during the training moments (7C) thanks to the guidance of the experts. During the 3rd meeting, the coordinators reworked the content that emerged from the working groups on the 7Cs, going to identify 8 essential areas in each school outdoor to support different types of learning. For each of these areas, each partner proposed some good practices already tested within their own reality for cross-testing by the project partners.

We then met with the teachers involved in the project, we read with them all the practices to understand how they had been implemented in their educational contexts. Taking into consideration the age of the children, the climatic conditions, the spaces available, the period of the settings and of the reopening after months and months of closure, we chose to test a practice for each Area: some we replicated precisely and punctually, others we revisited on the basis of our possibilities. Once tested, it was crucial for us to re-read the experience at the level of the section team through the documentary material developed: photos, videos, dialogues, observation grids. The evaluation of the learning synergies of the children who participated, the observation of their behaviours and the evidence of their knowledge processes consolidated the children's skills, broadened the teachers' view and enriched the research on the current external contexts. The documentary materials elaborated, and the exposition of the teachers involved during a structure team have solicited at a collegial level the thoughts, the curiosities and the new possible relaunches and changes to be made to our educational spaces.

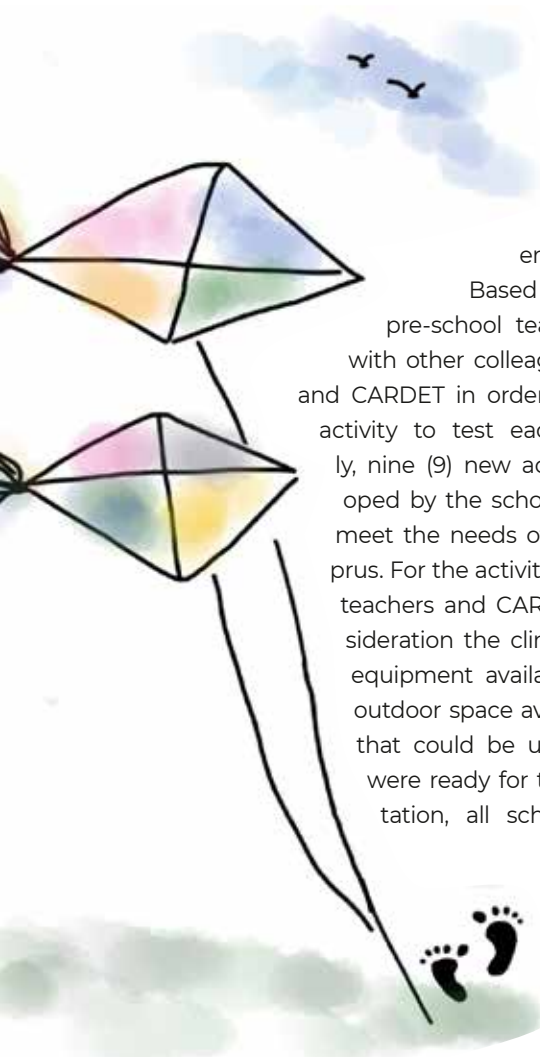
## CYPRUS

In Cyprus, we have tried to follow the most participatory approach, having both formal and informal meetings before the initiation of each activity, acquiring feedback by all possible stakeholders (including children), piloting and re-adjusting according to pre-schools' needs and context. As the 3 pre-schools were not official partners, but collaborators of CARDET, they played a pivotal role in designing and implementing the DEHORS project in Cyprus.

In the beginning of January 2019, CARDET sent out a letter to the Cyprus Ministry of Education, Culture, Sports and Youth, in order to inform them about the DEHORS project's initiation and recommend at least 3 pre-schools and experts, who were interested in



participating to the project. In February 2019, the 3 pre-school teachers (from 3 different pre-schools) and 1 expert met with CARDET in order to officially present them the project and start creating some introductory outdoor activities. In March 2019, the teachers presented their first five (5) activities during the partners' meeting, namely 'Catching Colours', 'Happy Birthday', Kids Yoga', 'Natural Exhibition' and 'What Shadows Can Do'. The activities were developed and tested by the teachers of the 3 pre-schools between March and June 2019. Following the meeting in Sweden in June 2019, CARDET and the pre-school teachers had several discussions on the 7Cs and their applicability in the Cypriot context. The teachers provided some very useful advice, based on the feasibility of applying those elements in pre-schools of Cyprus, the opportunities and limitations. This information was used during the 3<sup>rd</sup> Partner Meeting of the DEHORS project in Italy, where partners worked on 8 Outdoors Areas in order to form a model of outdoors education and support a variety of learning types of students. During the development of each Area, CARDET employed the useful feedback acquired by the pre-school teachers and the expert on outdoors education from Cyprus.



Having a good draft of the 8 Areas, CARDET presented the model to all pre-school teachers and the expert.

Based on each area, the 3 pre-school teachers collaborated with other colleagues of their school and CARDET in order to develop a new activity to test each area. Specifically, nine (9) new activities were developed by the schools and CARDET to meet the needs of pre-schools in Cyprus. For the activities to be developed, teachers and CARDET took into consideration the climate of Cyprus, the equipment available in schools, the outdoor space available and funding that could be used. When schools were ready for the new implementation, all schools had to close in Cyprus due to

COVID-19 outbreak. Immediately after they re-opened in June 2020, all 3 pre-schools implemented 9 of the newly developed activities, making sure to test at least 1 activity from other countries. CARDET also visited the schools during implementation to record possible challenges through the discussion with teachers and children, as well as take evidence (e.g. photos).

After filling in an 'Observation Form' for each activity implemented, CARDET also had a meeting with teachers in order to acquire their feedback and identify areas that required improvement. The teachers were very encouraging with the newly developed model, as they stated that it can enrich the children's perceptions and experiences, since children in Cyprus do not tend to experiment a lot with outdoors activities in schools. They also expressed their positivity on the fact that this model can be suggested to the relevant educational stakeholders in order to provide new ideas and open up new paths on outdoors education in Cyprus.

### CONTRIBUTION BY INVITED EXPERTS<sup>1</sup>

The expert's contribution in the project was several. They contributed to the design of example activities for the participants at the meetings, and they contributed with knowledge and ideas in power point presentations and in group discussions. The participants in the project had the opportunity to participate in workshops with the aim of testing activities that they later could introduce in their own practice.

The activities aimed at making outdoor experiences tactile, creative and emotionally involving. Participants could see the creation and management of a forest garden, as well as different kinds of learning pathways, and build bug hotels as concrete examples of developing outdoor spaces.

The experts also contributed to group discussions aiming at developing pre-school grounds, with the intellectual output 1: Models of outdoor learning spaces in pre-schools, as a final result.

The experts were invited to give feed-back on intellectual output 1 and reflect on their role in the process. They acknowledged the value of sharing expertise and practice from different countries and disciplines resulting in intellectual output 1. The presentation of the eight areas were believed to be helpful and inspiring for others, and

<sup>1</sup> The experts involved in the Project DEHORS are the following: Anne Goy Certified Permaculture Designer, Designer of Engineering company Ecodesign, Michela Schenetti Associate Professor Department of Education Studies "Giovanni Maria Bertin"- University of Bologna , Laura Catellani and Debora Lervini, referent to the didactics and sustainability of Centre for Environmental education and Sustainability (CEAS Terre Reggiane - Tresinaro Secchia, ), Krlis Ziedi š Architect Assistant/ designer at RemPro, Fredrika Mårtensson, Associate Professor at Swedish Agricultural University.





at the same time leaving room for the own context and needs. The experts believed it could be a valuable support in planning and rethinking educational activities for children, providing interesting and useful suggestions.

The experts emphasized the natural connection for children as essential. Gardens for all senses, including the edible garden, wild areas and relax zones surrounded by greenery was empathized as important aspects of a school ground. However, although the school ground contains these features, experiences in the wider natural environment such as forests, mountains and riverbanks were also mentioned as stimulating for children's nature relation. In the description of garden for all senses we only included five senses; taste, smell, feeling, sight and hearing and one expert commented on the fact that human senses also include thermoreception (feel with the skin without touch such as sun-shadow), nociception (unpleasantness, pain), balance, proprioception (perception of awareness of the position and movement of the body).

She further commented that the awareness of the nine senses is important for the design of outdoor spaces, from design of green structures to the design of areas for play and relax.

Another point made, was the role of natural forms and material for children's imaginative games, something children have been doing since prehistoric times.

Today, safety aspects are important, but the environment must not be too sterile or prepared.

## CONCLUSIONS ON AREAS AND ACTIVITIES

From the teacher's evaluations the activities seemed to work well also in other cultural contexts than in the original one where they were developed.

When needed, the pre-school teachers could adapt them, so they functioned in the local context.

Many activities stimulated thoughts about how to further develop them, or the designated area on the school ground. In general, the activities are well developed for the particular areas but still, there seems to be a challenge in designing for place-responsive learning. How do we design for learning so the place become part of the learning process, and what is the best place to use for this particular activity?

These are questions that needs further thoughts.

As explained earlier, the objective of the project was to develop teacher-led activities so therefore they are all structured. A next step could be to plan for more child-initiated learning.

However, in the evaluations, it is noted that the children are enthusiastic, creative and engaged, and they seem have the possibility to interact and make their contribution to the outcome of the activity.

The activities leave room for children's responses and reflections and are adjusted according to the children and the situation.

Concerning the areas, a challenge was to make a distinction between secret places and places for relaxation as a secret place is also probably a place for relaxation. Another challenge was the contradiction in designing for activities in a secret place.

The concept of a secret place become confused If the teacher designs an activity there, it is no longer a secret place for the child. However, the pre-school ground could be planned so children have the opportunity to find their secret places, but the activities aimed at develop self-regulating skills can be done at other places, like for example the activity 'Finding myself'.





## Conclusions

The work process including four countries from different parts of Europe had impact on the results.

The pre-schools from the different countries had different background in using their outdoor spaces for learning purposes and the physical environment looked different depending on for example climate and national regulations.

This enriched the discussions and made it clear that the activities needed to be suitable, or adjustable, to different contexts.

Some countries had a longer journey to travel but all succeeded in developing outdoor activities, and in testing them successfully.

Because of the project, there is ongoing work in developing the school ground in all of the countries.

The project has been an opportunity for professional development for the teachers involved (see also Govers 2019).

By taking part in the process, they have increased their awareness of the different areas

on a school ground and how they can organize their outdoor environment for learning, play and relaxation.

They have experienced challenges and barriers but have increased their knowledge of and skills in outdoor learning. In IO3 the increased knowledge and skills by the teachers will be presented in detail.



## References

- BAKER M. R., WALICZEK T. M. & ZAJICEK J. M. (2015). The effect of school gardening activities on visual-motor integration of pre-school and kindergarten students. *Journal of Therapeutic Horticulture*, 25 (2).
- BECKER C., LAUTERBACH G., SPENGLER S., DETTWELIER U. & MESS F. (2017). Effects of regular classes in outdoor education settings: A systematic review on students' learning, social and health dimensions. *International Journal of Environmental Research and Public Health*, 14(5), 485-. DOI: 10.3390/ijerph14050485.
- BENTO G. & COSTA A. (2018). Outdoor play as a means 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.
- BENTO O. J., & H. SANDSETER E. B. (2020). Affordances for physical activity and well-being in ECEC outdoor environment. *Journal of Environmental Psychology*, 69. <https://doi.org/10.1016/j.jenvp.2020.101430>.
- BFS 2015:1 FRI 1 (2015). *Boverkets allmänna råd om friyta för lek och utövande vid fritidshem, förskolor, skolor och liknande verksamhet*. (Swedish national board for housing, building and planning's advice about free space for play and outdoor activities at leisure time centers, pre-schools, schools, and other sectors). Stockholm: Boverket.
- BRUNER J. S. (1996). "La cultura dell'educazione", tr.it Feltrinelli, Milano 2000.
- COLWELL M., GAINES K., PEARSON K., CORSON H., WRIGHT H. & LOGAN B. (2016). Space, place and privacy: preschool children's secret hiding places. *Family & Consumer Sciences Research Journal*, 44(4), 412-421. DOI: 10.1111/fcsr.12169.
- DETTWEILER U. & MYGIND E. (2020). Dansk udeskole i et internationalt tog sammenlignende perspektiv. In (Edt.) E. Mygind. *Udeskole. TEACHOUT-projektets resultater*. (Outdoor school. The results of the TEACHOUT project). Frederiksberg C: Frydenlund.
- DEWEY J. (1902/2001). *The school and society & The child and the curriculum*. New York: Dover Publications. Inc.
- EKMAM LADRU D. & GUSTAFSON K. (2018). 'Yay, a downhill!': mobile preschool children's collective mobility practices and 'doing' space in walks in line. *Journal of Pedagogy*, 1, DOI: 10.2478/jped-2018-0005).
- DYMENT J. & POTTER T. (2014). Is outdoor education a discipline? Provocations and possibilities. *Journal of Adventure Education and Outdoor Learning*, 14(1), 1-16.
- FÄGERSTAM E. (2014). High school teachers' experience of the educational potential of outdoor teaching and learning. *Journal of Adventure Education and Outdoor Learning*, 14(1), 56-81.
- FÄGERSTAM E. & GROTHÉRUS. (2018). Secondary school students' experience of outdoor learning: A Swedish case study. *Education*, 138(4), 378-392.
- FÄGERSTAM E. & SAMUELSSON J. (2014). Learning arithmetic outdoors in junior high school: influence on performance and self-regulating skills. *Education 3-13*, 42(4), DOI:10.1080/03004279.2012.713374.
- GARIBOLDI A. & PUGNAGHI A. (2020). Educare alla creatività. Strumenti per il nido e la scuola dell'infanzia, pp. 5-167. <http://hdl.handle.net/11380/1197821>.
- GOVERS A. (2019). The results of a cross-cultural teacher development project in outdoor teaching—a comparative study among pre-school teachers in Cyprus, Italy, Latvia and Sweden. (Unpublished Master thesis). Linköping University.
- GUERRA M. (edited by). (2017). *Materie intelligenti. Il ruolo dei materiali non strutturati naturali e artificiali negli apprendimenti di bambine e bambini*. Junior. <http://hdl.handle.net/10281/174472>.
- HALVORSEN THOR K., NORDØ. E.C.A., NORDH, H., OTTESSEN I. (2019). Uteområder i barnehager og skoler. Hvordan sikre kvalitet i utformingen. (Outdoor spaces in pre-schools and schools: How to secure quality in their design). Norges Miljø- og Biotvitenskapelige Universitet. <https://www.nmbu.no/fakultet/landsam/institutt/la>
- HERRINGTON S., BRUNELLE S. & BRUSSONI M. (2017). Outdoor play spaces: as if children mattered. In (Eds.) Waller T., Årlemalm-Hagsér E., Hansen Sandseter E. B., Lee-Hammond L., Lekies K., & Wyver S. *The SAGE Handbook of Outdoor Play and Learning*. London: SAGE.





- ILLERIS K. (2007). How we learn. Learning and non-learning in the school and beyond. London: Routledge.
- KAPLAN H. (2020). Serendipity as a curricular approach to early childhood art education. *Art Education*, 73(6), 24-29. DOI: 10.1080/00043125.2020.1786345.
- KLAAR S. & ÖHMAN J. (2014). Children's meaning-making of nature in an outdoor-oriented and democratic Swedish preschool practice. *European Early Childhood Education Research Journal*, 22(2), 229-253.
- KOS M. & JERMAN J. (2019). Gardening activities at school and their impact on children's knowledge and attitudes to the consumption of garden vegetables. *Problems of Education in the 21st Century*, 77(2).
- KUO M., BARNES M. & JORDAN C. (2019). Do experiences with nature promote learning? Converging evidence of a cause-and-effect relationship. *Frontiers in Psychology*, 10(305). doi:10.3389/fpsyg.2019.00305.
- MACQUARRIE S., NUGENT C. & WARDEN C. (2015). Learning with nature and learning from others: nature as setting and resource for early childhood education. *Journal of Adventure Education and Outdoor Learning*, 15(1), 1-23. DOI:10.1080/14729679.2013.841095.
- MALAGUZZI L. (1995). *I cento linguaggi dei bambini*. Bergamo, Edizioni. p.98.
- MANNION G. & LYNCH J. (2016). The primacy of place in education in outdoor settings. In (Eds.) B. Humberstone., H. Prince., & K. Henderson. *Routledge International Handbook of Outdoor Studies*. New York: Routledge.
- MAYNARD T. & WATERS J. (2007). Learning in the outdoor environment: a missed opportunity? *Early years: An International Research Journal*, 27(3), 255-265. DOI: 10.1080/09575140701594400.
- MONTI F., FARNÉ R., CRUDELI F., AGOSTINI F., MINELLI M., & CECILIANI A. (2017). The role of outdoor education in child development in Italian nursery schools. *Early Child Development and Care*. DOI: 10.1080/03004430.2017.1345896.
- MOORE D. (2015). 'The teacher doesn't know what it is, but she knows where we are': young children's secret places in early childhood outdoor environments. *International Journal of Play*, 4(1), 20-31. DOI: 10.1080/21594937.2014.925292.
- MURAKAMI C. D., SU-RUSSELL C. & MANFRA L. (2018). Analyzing teacher narratives in early childhood garden-based education. *The Journal of Environmental Education*, 49(1), 18-29.
- MUSSINI I., GILIOLI C., RUSTICHELLI F., MARTINI D. & GARIBOLDI A. (2020). Progetto e/a ricerca. Approfondimenti ed esperienze nei servizi educativi per l'infanzia. *Junior Edizioni* p.94 <http://hdl.handle.net/11380/1226880>
- MYGIND E. (2020). (Ed.). *Udeskole. TEACHOUT-projektets resultater*. (Outdoor school. The results of the TEACHOUT project). Frederiksberg C: Frydenlund.
- NEDOVIC S. & MORRISSEY A-M. (2013). Calm and active and focused: children's responses to an organic outdoor learning environment. *Learning Environment Research*, 16, 281-295. DOI: 10.1007/s10984-013-9127-9.
- PEDERSEN GURHOLT K. & RÖNNING SANDERUD J. (2016). Curious play: children's exploration of nature. *Journal of Adventure Education and Outdoor Learning*. DOI: 10.1080/14729679.2016.1162183.
- PRINCE H., ALLIN L., HANSEN SANDSETER E. B. & ÅRLEMALM-HAGSÉR E. (2013). Outdoor play and learning in early childhood from different cultural perspectives. *Journal of Adventure Education and Outdoor Learning*, 13(3), 183-188.
- PURIOILA A-M., ESTOLA E. & SYRJÄLÄ L. (2012). Does Santa exist? Children's everyday narratives as dynamic meeting places in a day care centre context. *Early Child Development and Care*, 182(2), 191-206. DOI: 10.1080/03004430.2010.549942.
- QUAY J. & SEAMAN J. (2016). Outdoor studies and a sound philosophy of experience. In (Eds.) B. Humberstone., H. Prince., & K. Henderson. *Routledge International Handbook of Outdoor Studies*. New York: Routledge.
- RINALDI C. (1999). "I processi di apprendimento dei bambini tra soggettività ed intersoggettività", in I Taccuini 7, Centro Documentazione e Ricerca Educativa Nidi e Scuole dell'Infanzia comune di Reggio Emilia, p9.
- ROED OTTE C., BÖLLING M., BENTSEN P. & EJEV-ERNST N. (2020). Elevers motivation og læring. In (Edt.) E. Mygind. *Udeskole. TEACHOUT-projektets resultater*. (Outdoor school. The results of the TEACHOUT project). Frederiksberg C: Frydenlund.
- SARACHO O. (2017). Theoretical frameworks of development of play. In (Eds.) Waller, t., Årlemalm-Hagsér, E., Hansen Sandseter, E. B., Lee-Hammond, L., Lekies, K., & Wyver, S. *The SAGE Handbook of Outdoor Play and Learning*. London: SAGE.
- SCHENETTI M., ROSSINI B. & SALVATERRA I. (2015). La scuola nel bosco: pedagogia, didattica e natura. Edizioni centro studi Erickson, p. 267.
- SKELTON K., LOWE C., ZALTZ D. & BENJAMIN-NEELON S. (2020). Garden-based interventions and early childhood health: an umbrella review. *International Journal of Behavioural Nutrition and Physical Activity*, 17: 121.
- SOLTERO E., PARKER N., MAMA S., LEDOUX A. & LEE R. (2019). Lessons learned from implementing of garden education programme in early child care. *Health Promotion Practice*. DOI: 10.1177/1524839919868215.
- SOMMER D., PRAMLING SAMUELSSON I. & HUNDEIDE K. (2013). Early childhood care and education: a child perspective paradigm. *European Early Childhood Education Research Journal*, 21(4), 459-475. DOI: 10.1080/1350293X.2013.845436.
- ULSET V., VITARO F., BRENDGREN, M., BEKKHUS M. & BORGE A. (2017). Time spent outdoors during preschool: links with children's cognitive and behavioural development. *Journal of Environmental Psychology*, 52, 69-80.
- WAKE S. & BIRDSALL S. (2016). Can school gardens deepen children's connection to nature? In K. Nairn, P. Kraftl & T. Skelton (Eds.). *Space, Place and Environment (Geographies of Children and Young People, Vol 3)*. (1 st ed): 89-115. Singapore: Springer.
- WALLER T., ÅRLEMALM-HAGSÉR, E., HANSEN SANDSETER E. B., LEE-HAMMOND L., LEKIES K. & WYVER S. (2017). Introduction. In (Eds.) Waller, t., Årlemalm-Hagsér, E., Hansen Sandseter, E. B., Lee-Hammond, L., Lekies, K., & Wyver, S. *The SAGE Handbook of Outdoor Play and Learning*. London: SAGE.
- 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*, 18(4), 473-483. DOI: 10.1080/1350293X.2010.525939.
- VYGOTSKY L. (1933/1978). *Mind in society: the development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- WYVER S. (2017). Outdoor play and cognitive development. In (Eds.) Waller, t., Årlemalm-Hagsér, E., Hansen Sandseter, E. B., Lee-Hammond, L., Lekies, K., & Wyver, S. *The SAGE Handbook of Outdoor Play and Learning*. London: SAGE.
- ZAMANI Z. (2016). 'The wood is a more free space for children to be creative; their imagination kind of sparks out there': exploring young children's cognitive play opportunities in natural, manufactured and mixed outdoor preschool zones. *Journal of Adventure Education and Outdoor Learning*, 18(2), 172-189. DOI: 10.1080/14729679.2015.1122538.
- ZAMANI Z. (2017). Young children's preferences: what stimulates children's cognitive play in outdoor preschools? *Journal of Early Childhood Research*, 15(3), 256-274. DOI: 10.1177/1476718X1561616831.
- ZAVALLONI G. (2009). La pedagogia della lumaca. Per una scuola lenta e non violenta. Bologna: Emi.
- ZAVALLONI G. (2003). I diritti naturali dei bambini e delle bambine. Online <https://scuola.regione.emilia-romagna.it/focus-scuola/i-diritti-naturali-dei-bambini/diritti-naturali-di-bimbe-e-bimbi...perche-un-manifesto>
- ÄNGGÅRD E. (2016). How matter comes to matter in children's nature play: posthumanist approaches and children's geographies. *Children's Geographies*, 14(1), 77-90.

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**GUIDE  
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OF OUTDOOR SPACES**

