



Social & Emotional Learning through bringing nature back to schools” - SEL for schools

TEACHERS’ GUIDE - Short version

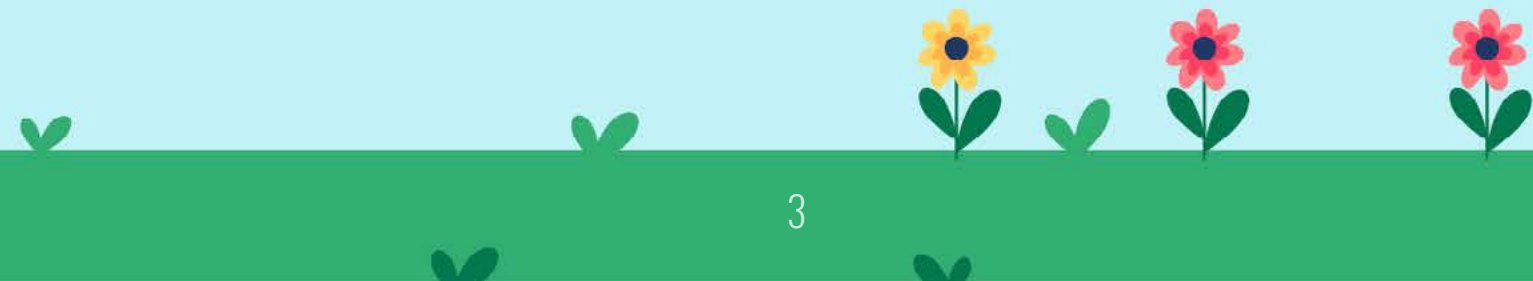


Educational guide for teachers supporting emotional intelligence (EQ) and social & emotional competences of early years and lower primary level (SEL) while using the outdoor environment and nature.

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1. Foreword

The increasing evidence of the multiple benefits that nature has for the health and well-being of children has led health professionals to recommend more and more to be in contact with nature and connected to it and spend time in it. Related to this, numerous studies highlight that nature offers opportunities and experiences that contribute to the well-being and health of children in many ways, such as the improvement of their physical, psychological, social and emotional development, through direct, indirect and symbolic experiences.

This awareness of the importance of nature for the health and well-being of children, has been accelerated specially during the Covid-19 pandemic, in which the role of close natural spaces has become especially visible as an essential requirement for health and well-being. It is evident that children who have been able to enjoy natural spaces have better overcome the restrictions that have unfortunately accompanied us for a long time and that this contact has been very important for their health and well-being.

The concept of health, as understood by the World Health Organization since 1948 (in terms of a complete state of physical, mental and social well-being and not the mere absence of disease or ailment) therefore has taken all its meaning in that context. As also has the concept of subjective well-being, which converges, and which refers to the perceptions, evaluations and aspirations of the people themselves - the children in this case - in relation to their lives and that can coincide or not with what that experts consider more relevant to their health and well-being.

However, although we have much scientific knowledge about the positive effects that direct exposure to nature entails, do we really know how children perceive nature? How is their relationship with nature and the role that this relationship has while generating benefits for our health and well-being? The answer is rather negative and, therefore, the actions that we carry out only from the adult perspective, though well intentionally and planned, have very evident limitations. If we want to advance in this direction, we clearly need tools and different ways of doing things, that allow us to incorporate the child's perspective and give them as much importance as expert knowledge, although it can initially generate many doubts.

In this challenge we already have specific concepts that can be very useful, such as the feeling of connection with nature that has been quite studied with adults but, on the contrary, very little with children. The background idea is simple: feeling connected to nature is more than spending time in nature because it has to do with how subjectively we build our relationship with it. Emotions



(what we feel), as much as cognitions (what we think), become two key pieces in this construction.

In this regard, most children have favorable opinions about nature and experience positive emotions when they are in contact with it, according to the expectations of experts and educators. But, at the moment when adults become aware of how important it is to know how children give meaning to natural spaces, how they assign meaning and how they experience them and perceive them, we must also be prepared to discover that, for some children, nature is synonymous of indifference and that others even experience negative emotions, such as loneliness and fear. We must also assume that many children have limited access to nature and that, therefore, we must look for creative ways, together with them, from their total initiative, so that nature reaches their usual life environments, such as schools.

The guide that you have in your hands and that I have the privilege and pleasure of introducing, constitutes an excellent example of how important it is to break the dichotomy between nature and non-nature. Also see how traditionally considered non-nature spaces due to their high degree of urbanization, as are the schools, can become places where nature is present in a creative, collaborative and integrated way with other activities of school life and with its immediate physical environment.

The renaturalization of urban spaces constitutes, fortunately, an unstoppable movement that seeks to promote a better health and quality of life of citizens. For this, the complicity and participation of all, both adults and children, is necessary. And to be accomplices it is evident that we must support and train the different actors who are part, so this guide aims those teachers becomes essentials. However, we must bear in mind that the few children who have been asked about their relationship with nature in scientific studies define it as complex, because they consider that there are many factors that are intervening. From here, it is clear we need to know many more things from children from very diverse cultures and from very different vital situations. But, above all, we need children to be at the center of all this, also those who are in a situation of vulnerability. And not as citizens of the future that they will one day become, but as present citizens that they already are. I invite the people to whom this guide is destined that can contribute to children's voices being heard when the activities that are proposed are developed, because they have much to say.

Mónica González-Carrasco
Professor of Social Psychology at the University of Girona
Girona, 29 September 2023

2. Brief explanation of the Project

Birds are fascinating animals, and have great ecological significance. However, British scientists have warned that Europe's bird population has declined by 421 million birds over the past thirty years, which is approximately one fifth of the total. A study by the Cornell Lab of Ornithology (May 2022) found approximately 48% of existing bird species worldwide are known, or suspected, to be undergoing population declines.

Birds are highly visible and strong indicators of environmental health, their loss signals a much wider loss of biodiversity and threats to human health and well-being (K Rosenberg, Cornell Lab 2022). The conservationists warn that if this decline is not reversed, we will lose the significant natural values. Jan Gugh, SOS/Birdlife SK, believes that we can help by "closely monitoring birds and cultivate children's relationship with nature". At the same time, establishing areas, that will offer bird a year - round source of food, nesting possibilities, water and shelters. People generally have poor biodiversity-identification skills. Misconceptions about species, including birds, are common amongst children and, if not addressed, can persist into adulthood. Another problem is, that children, esp. in urban areas, are more disconnected from nature than ever before, leading to "extinction of experience" with the natural world. Yet there are many benefits from children interacting with nature first-hand, through outdoor learning.

The evidence suggests childhood nature experiences can positively affect adult environmental attitudes and behaviour. Possessing basic animal and plant identification skills is often emphasised as a prerequisite for understanding and appreciating biodiversity. Outdoor learning - based programmes are believed to be particularly beneficial. School grounds are valuable resource that can provide nature experiences, and spaces for learning. There are multiple benefits of outdoor learning within school grounds, including the close and easy access to school (saving money on travel and teaching time), ease of frequent visits (for long-term studies), and the fact that children are more attentive to educational tasks, which in turn increases academic attainment, and feel more comfortable when taught in a familiar environment. Exploring biodiversity in school surroundings can increase children's curiosity and interest in science and nature, and support their pro-environmental thinking.

Positive attitudes of children are formed not only through knowledge, but also through emotional education and development of emotional competences. An emotional connection is needed if we are to develop a relationship with animal species and the natural world. In our project, we believe that emotional intelligence (EQ) and emotional competences can positively enhance and influence children attitudes and knowledge. We believe, that if schools implement programmes, combining the aspects of social and emotional education, with the use of the outdoors, alongside running small - scale environmental projects - bringing nature back to schools, that childrens knowledge, attitudes and emotional intelligence can increase at the same time.



This program was developed by four countries working in partnership. We conducted a research study, and developed and tested new methodology for working with children aged 4 - 6. This focused on learning about nature and bird species, incorporating social & emotional learning, so called „3 in 1“ concept.

This Guide to the SEL for Schools program, is a result of the 3 years work, carried out in the years 2020 - 2023, and brings new concept of working outside with children. We hope you will enjoy the related program, together with children, and the birds!

This project was carried out transnationally, with each partner bringing unique skills and knowledge but sharing common values and goals.

In the project, following partners worked together:



Since 1954, the Spanish Ornithological Society (SEO), SPAIN, has been working for the conservation of birds and their habitat, conducting studies to increase knowledge about birds, spreading knowledge, appreciation and respect to birds and nature in general. SEO focuses on practical environmental education and teacher trainings. SEO develops training courses for schoolchildren, youth and adults, maintains collaboration with primary and secondary schools and with universities across Spain.

https://seo.org/?gclid=CjOKCQiA6LyfBhC3ARIsAG4gkF8xw3LQ7IGY8OZ41I00_PNFmftyVFUagjWu1MiJyrVQTP122V4qloMaAt5OEALw_wcB



MILANTA, SPAIN specializes in the renaturalization of spaces, which designs and builds elements to promote biodiversity in schools. It focuses on plants and natural elements that create gardens to provide homes for flowers, insects and birds. Whilst transforming the spaces, a particular emphasis is placed on co-education and emotional education.

www.milanta.net



BirdLife MALTA (BLM) is the oldest environmental organisation in Malta, whose mission is to conserve wild birds, their habitats and biodiversity, working with people towards sustainability in the use of natural resources. Through community engagement projects and nature reserves, Birdlife Malta helps to create homes for nature and safe places for migratory and resident birds. BirdLife Malta's education mission is to connect people with nature, through formal and informal programmes, with the emphasis on experiential learning.

<https://birdlifemalta.org/>



SOS/Birdlife Slovensko, SLOVAKIA, is a part of Birdlife international. The organisation fulfils its mission through bird monitoring and practical protection (nest boxes, nest platforms, management of habitats, creation of wetlands). Environmental education is an important part of their work, aimed at increasing public awareness (through lectures and excursions, voluntary camps, publications and educational programmes).

<http://www.vtaky.sk/>



Learning through landscapes, UK, is the UK's leading charity specialising in outdoor learning and play in education. Ltl expertise is based on 30 years' experience of practical action and research. Ltl aims to enable children to connect with nature, be more active, more engaged with their learning, develop their social skills and have fun outdoors! Also, Ltl has rich experience with development of teacher training programmes focused on the use of the outdoors. In addition to providing methodological support to teachers, Ltl has also an expertise in changing the schools grounds, linking to outdoor learning and play and providing teachers' support in this field.

<https://ltl.org.uk/>





Presov university, SLOVAKIA, Faculty of education, Department of pre - primary and primary pedagogy and psychology, develops and runs academic programmes for future teachers of early years and lower primary level. In addition to these, they have an experience with implementing programmes focused on social & emotional education, as well as carrying out the research. The department has an experience with developing methodological materials related to outdoor education, gained through TAKE ME OUT ERASMUS+ project.

<https://www.unipo.sk/pedagogicka-fakulta/katedry/kpepp/>



INAK, SLOVAKIA, is an NGO, that tries to do things DIFFERENTLY/“INaK“, if possible, „Innovatively and Creatively“. „INaK“ was established in 2014, as the team of people experienced in the field of using innovative approaches, activating methods and ICTs in education, with the experience of development of didactic materials, project management, running of educational trainings, as well as the other activities from the field of innovative education. Through our activities, we aim to support the development of human resources. We focus on the use of innovative approaches, using creative methods in the educational process and whilst working with a variety of target groups - children, youth and adults. Our projects enhance lifelong learning and help to develop key competences. INAK initiated and led this partnership based on the previous successful international project TAKE ME OUT ERASMUS+, that is this project, SEL for SCHOOLS, based upon. <https://takemeoutproject.eu/>
www.trochuinak.sk



3. Introduction of “3 in 1” concept

Development of emotional intelligence and social skills, especially in early years, should go hand in hand with the development of relationships to animal species and nature. Psychologists talk about the important role of EQ in educating and supporting children’s development.

What does emotional intelligence actually mean? Emotional intelligence (EQ) is the ability to observe and understand our own feelings/emotions, knowing how they affect our behaviour, actions, and choices. Being able to express and control our emotions is important, but also recognising the feelings of others - and how we might respond in their shoes allows us to build relationships and communicate successfully with other people. A person with a high EQ can control their moods, can quickly adapt to new situations, resolve conflicts and interpersonal relationships, is popular in a team and friendly, kind and empathetic. Experts say emotional health is a basic need for effective education. Children should be equipped with abilities such as self-confidence, self-motivation, self-care, empathy and engagement, and, awareness of all this and perception of the needs of others, too. Pupils should not learn and memorize “forcibly” at school, but today we are talking about developing their ability to learn. It is generally said that people with high EQ do better in the workplace and are more satisfied with their lives. Developing emotional skills can help us overcome various obstacles in life, achieve goals, strengthen inner motivation.

In our project we believe that EQ and emotional competences can influence and positively enhance childrens attitudes and knowledge. Therefore we based this program on a 3 in 1 concept, where we linked outdoor learning, and social and emotional learning with information about birds and the natural world in order to increase the health and wellbeing of children. Social and emotional learning provides the basis for safe and successful learning. It increases students’ skills, providing the techniques for coping and the capabilities to succeed in life, school and career. Research shows that including SEL activities/programs can reduce the risk of depression or stress, and increase the feeling of wellbeing. Children from SEL programs also like going to school.

Such programs have several advantages. Pupils learn how recognise their feelings, and to control their behaviour, they understand the perspective of others, and each other socially. Pupils also have a positive attitude towards themselves and other people, and to the tasks that require more perseverance; they are able to make considered personal and social decisions. Children from SEL programs can also see more positive social behavior and relationships with their peers and adults, they have fewer behavioural problems, better attendance and grades. In the long run, these children have a better chance of creating a good family relationships, have better mental health and contribute to active citizenship.



It's good for them, it's good for you

In the program, we will encourage you to also transform your outdoor spaces according to the needs of the children and the birds, creating a good environment for everybody, making a parallel between what the birds need to be healthy (water, plants, food, quiet areas) and what the children need to feel well (nature, play, movement, quiet areas).

You could consider the following questions as you develop your spaces and practise: How am I today? How do I think the birds are today? What do the birds need to be healthy, and happy? What do I need to feel well? What makes me feel calm and happy? What I can do to help the birds? What can I change to feel better in a playground, or to make it better for bird/wildlife?



4. Results from abroad (study)

The research element of this project was conducted in schools of the four partner countries. Questionnaires were completed by parents, teachers, and children. The data has been collected, and analysed by the University of Presov, Slovakia.

Key findings of this work are shown below, but please see Appendix 1 at the end of the document for the summary report

Introduction

Social-emotional learning (SEL) and mental health preventive programs are very popular internationally; however, there is limited research evaluating their effects on children in kindergarten. The first years of life are crucial for school success and for adult life. It is at this stage that the brain has a unique plasticity and remarkable development. Neuronal pathways are developed through external stimuli, which, in turn, have an impact on children's emotional, social, and intellectual skills and competences (Allen & Kelly, 2015).

The questions we hoped to answer within the research are:

After the implementation of the educational programme, developed within the SEL project, will preschool children

- Have developed social and emotional competencies?
- Demonstate prosocial behaviour?
- Have improved knowledge of birds?

The research surveyed a total of 257 children aged 4 - 6years old, 30 teachers, 299 parents. Schools were split into 3 groups.

Group 1 where students undertook the programme using predominantly an indoor space. 257 children surveyed

Group 2 where students undertook the programme using predominantly an outdoor space.

Group 3 were the control group. They did not implement the programme, but undertook questionnaires at the start and end of the research period.



The results:

The SEL programme was successful in increasing:

- Childrens knowledge and understanding of birds
- Childrens prosocial behaviours- understanding others feelings, empathy, showing support of others, taking positive action
- Emotional competence
- Connection to nature
- Well being
- Using SEL activities has positively affected the personality development of preschool children. Our research findings confirm the positive impact of the SEL program on the comprehensive personality development of preschool children in terms of socio-emotional competence, cognitive skills, pro-social behavior and mental well-being.
- Being outdoors had a positive effect on most children
- The SEL program significantly impacted a wide range of outcomes across multiple domains in children.

SEL program achieved significant effects across all of the outcome categories studied: improved SEL skills; attitudes toward self and others; positive social behaviors; reduced conduct problems; emotional distress; and improved academic performance.

This SEL program significantly improved taught skills, corroborating the findings of other studies, which support that SEL can improve complex childrens' personality.



5. How to use this guide

In the course of developing this project, we have been able to address the main difficulties faced by schools and teachers to intensively incorporate outdoor learning and nature in their daily teaching practice. This guide aims to give you ideas and answers to address these difficulties so that everyone can, to incorporate outdoor learning and contact with nature into the daily lives of children. You will see that it is possible!

This is not a linear guide, it is not designed in this way. This guide will provide specific tools, and will help you build your day - to - day teaching from a different perspective. By taking different paths, we can all reach the same goal: to offer children from anywhere real possibilities of contact with the outdoor and nature. Thus improving their environmental awareness, and to awaken their love for nature and for life as such, which in turn, will contribute to improving the emotional and social well - being.

The message wants to be very clear: if it is good for them (the birds) it is good for us (people) ! “It” - meaning the outdoor environment, that we share! We must understand that we are totally interdependent with nature.

It is not about going from nothing to everything, the idea is to incorporate daily habits little by little, without being overwhelmed. At first, when you introduce outdoor dynamics, it may not work as you would like. Both you and your children need a period of adaptation.

It is very common that at the beginning, you feel that there are more distractions. However, if you fully incorporate these practices on a daily basis, you will see that these distractions will decrease because going outside will cease to be an exceptional event and very interesting new lines of learning will appear.

It is vital that both you and the children stop making the association of: the classroom is to carry out concentration tasks and the outside is for recreation, i.e. to run and do moving activities. We have to come to a time when we can also concentrate outside to read, we can be quiet to observe birds or we can be doing some curricular work. We have to break with this tradition in order to move forward.

What will you find in this guide?



First of all, we have tried to respond to the main difficulties expressed by the teachers who have participated in the pilot test.

Issues such as combining the curricular needs required by the education systems of each country, with the program's suggestions; playgrounds with little nature, or difficulties in maintaining natural elements are a few of the more common barriers faced, but there are others.

We also give you some tips and ideas that will help you create outdoor activities, dynamics and experiences, which will allow you to tailor to the needs and concerns of your groups. In this way, we hope to generate organic links between what you want to promote and the fact of going outside and coming into contact with nature.

In addition, we show you daily routines and rituals of welcome, ways of gathering in order to express and listen, to observe and chat with your groups. These suggestions clearly incorporate the outside and nature dimensions and will help in structuring the school's daily schedule, whilst contributing to developing social, emotional skills of children and their competence.

Finally, you will find many specific activities for you to implement this methodology with your children and students. These are organized around thematic questions about birds. It starts from what we do not know, so from what makes us curious and want to get to know, to greater understanding of birds, but also to stretching the thread, learning to express and listen to ourselves, and observe the things and people around us.

Welcome to the SEL program!

In this program, with your help, we would like to:

- Develop child's social and emotional competences
- Support children knowledge of nature
- Develop positive attitudes to nature and the outdoors
- Strengthen connection to nature
- Contribute to child's overall development and physical and mental wellbeing!



6. Methodological and logistical challenges - how to handle them

6.1 Challenge of implementing all the activities along curricula

This programme is not about doing one more thing, but simply doing things differently, so that you can incorporate being outdoors in nature whilst hitting the expectations of your curriculum.

At the Montserrat Solà school in Mataró (Catalonia), for example, each classroom has the name of a tree, which they have also planted in front of the classrooms. They have linked the trips they usually do to nature to the theme of birds and when they organize corners to promote reading and writing, mathematical thinking, etc. They mount one always outside. In this way, children have begun to incorporate outdoor space as a space of concentration, for example, going in small groups helps them to enjoy the outside in a quieter way.

“One of the objectives of our center is to bring students closer to their immediate environment and we have adapted the project to the birds that live in our yard and in our city. As a center attached to the green school program, our project focuses on caring for the environment. Within the project we have visited the garden that the school has in an agricultural area near the school. Our classrooms are named as trees” (teacher at the Montserrat Solà school in Mataró)

6.2 Regulating the use of playground and outdoor time

Having a flexible and open schedule can help incorporate this space on a daily basis beyond playground time. Another option is to think of the playground space as just another classroom, and regulate its use. Designing the courtyard in a conceptualized way can also help us to use it in a variety of ways, as a space to manipulate and experiment, another to carry out artistic activities, to read stories, etc. We'll give you more clues later!

“We have the playground in front of the classrooms and that has made it a lot easier. A fixed play space for water transfer has been created and every day we have had breakfast under our tree.” (teacher at the Montserrat Solà school in Mataró)



6.3 What if we have lack of knowledge of nature and birds

This argument has come out on several occasions, we are often afraid to address issues that we do not know in depth, but the key to this project is to discover and learn together with the children and students. For children to see that we adults do not know everything is a good learning process, because the most important thing is to transmit what we do and need to do when we do not know anything. What questions do we ask? Where do we look for information? How we elaborate the answers? This is an initiation to critical, scientific and philosophical thinking and supports child learning, too!

*“All the material they sent us has helped us expand our knowledge. Our learning has been with the children.”
(teacher at the Montserrat Solà school in Mataró)*

6.4 Too many children outside per teacher

This problem arises in a very different way, depending on the context of each country, one of the solutions found by teachers in Catalonia (Spain) is to involve families and retired teachers, in order to have more adults per child, to feel more comfortable and quieter when going outdoors.

Many of the schools that have adopted this measure recommend setting up a bank of people at the beginning of the academic year and encouraging families to accompany also the groups across the school rather than just the class of their child.



7. Outdoor space challenges - how to handle them

7.1 How to naturalize yards

From idea to action

Before starting naturalization, it is very important to take into account the use of outdoor spaces. What activities you want to promote, what activities are necessary for the outdoor space to accommodate the needs of all children, needs of birds, minibeasts and small animal species, diversity, and above all, keeping in mind that it is not a process that is carried out in a few months, in some cases it can take years to achieve a balanced, sustainable and biodiverse outdoor space. To find out more, please see here: [Resources | Natural Start](#)

Connecting children with nature in schools has a positive impact that includes the following:

Supports multiple development domains. Nature is important to children's development in every major way—intellectually, emotionally, socially, spiritually and physically (Kellert, 2005).

Supports creativity and problem solving. Studies of children in schoolyards found that children engage in more creative forms of play in the green areas. They also played more cooperatively (Bell and Dymont, 2006). Play in nature is especially important for developing capacities for creativity, problem-solving, and intellectual development (Kellert, 2005).

Enhances cognitive abilities. Proximity to, views of, and daily exposure to natural settings increases children's ability to focus and enhances cognitive abilities (Wells, 2000).

Improves academic performance. Studies in the US show that schools that use outdoor classrooms and other forms of nature-based experiential education support significant student gains in social studies, science, language arts, and math. Students in outdoor science programs improved their science testing scores by 27% (American Institutes for Research, 2005).

Reduces Attention Deficit Disorder (ADD) symptoms. Contact with the natural world can significantly



reduce symptoms of attention deficit disorder in children as young as five years old (Kuo and Taylor, 2004).

Increases physical activity. Children who experience school grounds with diverse natural settings are more physically active, more aware of proper nutrition, more civil to one another and more creative (Bell and Dymont, 2006).

Improves nutrition. Children who grow their own food are more likely to eat fruits and vegetables (Bell & Dymont, 2008) and to show higher levels of knowledge about nutrition (Waliczek, & Zajicek, 2006). They are also more likely to continue healthy eating habits throughout their lives (Morris & Zidenberg-Cherr, 2002). Improves eyesight. More time spent outdoors is related to reduced rates of nearsightedness, also known as myopia, in children and adolescents (American Academy of Ophthalmology, 2011).

Improves social relations. Children will be smarter, better able to get along with others, healthier and happier when they have regular opportunities for free and unstructured play in the out-of-doors (Burdette and Whitaker, 2005).

Improves self-discipline. Access to green spaces, and even a view of green settings, enhances peace, self-control and self-discipline within inner city youth, and particularly in girls (Taylor, Kuo and Sullivan, 2001).

Reduces stress. Green plants and vistas reduce stress among highly stressed children. Locations with greater number of plants, greener views, and access to natural play areas show more significant results (Wells and Evans, 2003).

For more details please see here:

[\(benefits_of_connecting_children_with_nature_infosheet.pdf \(naturalstart.org\)\)](#):



Diversity of habitats means biodiversity

The concept of “diversity of habitats” is about the wide array of environments, ecosystems, and niches found within a specific geographic area, including your own kindergarten schoolyard. This concept is closely connected to “biodiversity,” which encompasses all the different types of species—plants, animals, fungi, and bacteria—existing in a particular region. It’s important to understand that these two ideas are interlinked, as the range of habitats directly affects the variety of species that can thrive in an area. Having diverse habitats ensures that a broader range of species, each with its own unique ecological needs, can coexist harmoniously.

Unfortunately, human activities that harm or destroy habitats can lead to a decline in biodiversity. When habitats are lost, species lose their homes and struggle to survive in altered environments. However, we have the power to make a positive impact. Conservation efforts often focus on safeguarding diverse habitats to protect the countless species that depend on them. This highlights the critical relationship between habitat diversity and biodiversity, emphasizing the importance of maintaining various ecosystems to ensure the long-term health and resilience of our planet’s living systems.

As educators in a kindergarten setting, you can play a significant role in enhancing biodiversity within your schoolyard. When you create spaces rich in biodiversity, you offer young children a chance to forge deep connections with the natural world around them. This understanding helps children realize how all living things are interconnected, fostering empathy and respect for the creatures that we share the Earth with. Moreover, by instilling a sense of appreciation for biodiversity at an early age, we lay the foundation for environmentally conscious behavior in their future. Our efforts today can inspire the conservationists of tomorrow.

Transforming your kindergarten outdoor spaces into hubs of biodiversity can be an inspiring and educational journey. Here are some strategies you can consider, while some of them will be more specified later:



- **Native Plant Gardens:** Create gardens with native plants that attract local wildlife like butterflies, bees, and birds. These plants are adapted to the region’s climate and provide food and shelter for various species.
- **Wildlife Habitats:** Install birdhouses, bat boxes, and insect hotels to provide homes for different creatures. Educate children about the importance of these habitats and the animals that inhabit them.
- **Composting and Recycling:** Teach children about composting and recycling by setting up compost bins and recycling stations. This promotes a sustainable mindset and supports soil health.
- **Natural Play Spaces:** Design outdoor areas with natural elements like logs, rocks, and sand to encourage imaginative play and exploration. These spaces mimic natural environments and attract diverse species.
- **Pond or Water Feature:** If feasible, create a small pond or water feature to attract frogs, insects, and aquatic plants. This provides a unique learning opportunity about aquatic ecosystems.
- **Nature Walks and Discovering:** Organize nature walks to help children observe and learn about different plants, insects, and animals in the kindergarten environment.
- **Seasonal Observations:** Encourage children to observe changes in the environment throughout the seasons. This helps them understand the lifecycle of plants and animals.
- **Outdoor Classrooms:** Set up an outdoor classroom space where lessons can be conducted. This provides opportunities for learning about biodiversity firsthand.
- **Gardening Activities:** Involve children in planting, watering, and caring for the garden. This hands-on experience fosters a sense of responsibility and appreciation for the natural world.
- **Nature Art and Crafts:** Use natural materials like leaves, twigs, and flowers for arts and crafts. This encourages creativity while connecting children to the outdoors.



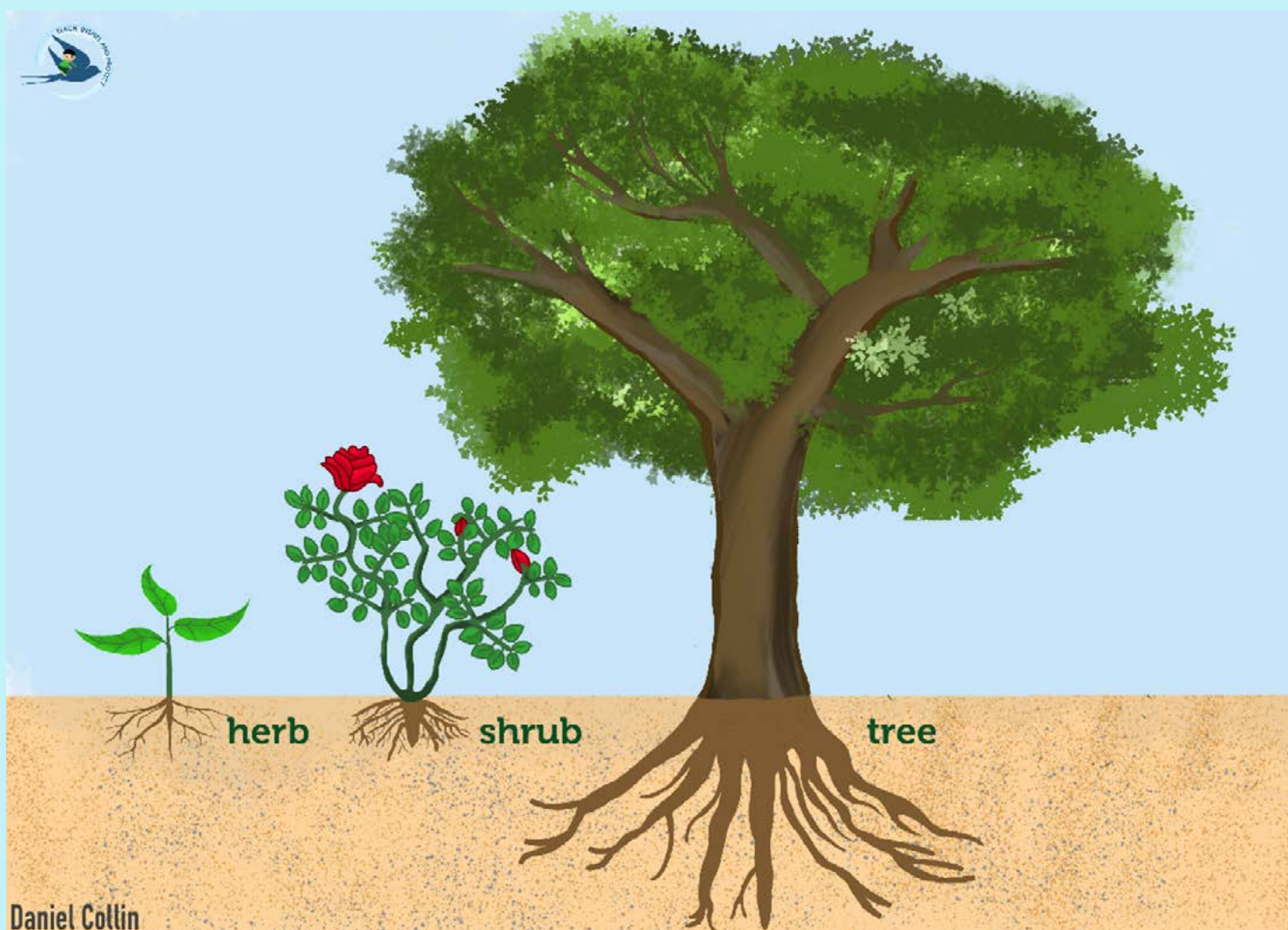
Enhancing biodiversity in kindergarten outdoors is not only about creating a rich environment for wildlife but also about cultivating a sense of wonder, curiosity, and responsibility towards the natural world in the young learners.

In the context of kindergartens, the idea of diversity of habitats can be metaphorically applied to the learning environments provided for young children. Just as diverse habitats in nature support various species, a kindergarten that offers a range of learning spaces and activities supports the diverse needs and interests of young learners. Each unique “habitat” within the kindergarten provides children with the opportunity to explore and develop different skills, fostering a well-rounded educational experience.

Herbs, shrubs, and trees all have their importance

Plants provide us with fresh air and the oxygen needed to sustain life on Earth. They also provide habitats and food sources for various insects, butterflies, and small animals, thus contributing to biodiversity.

There are different types of plants: herbs, shrubs and trees, and they have all profound importance for nature, biodiversity, and humans. Herbs have a soft stem; shrubs are bushy, medium-size plants and their branches start from the ground; and trees are tall and large plants with a woody stem.



Daniel Collin

Some of the benefits they provide to nature and humans are shared, but some are exclusive to each category. See the table below.

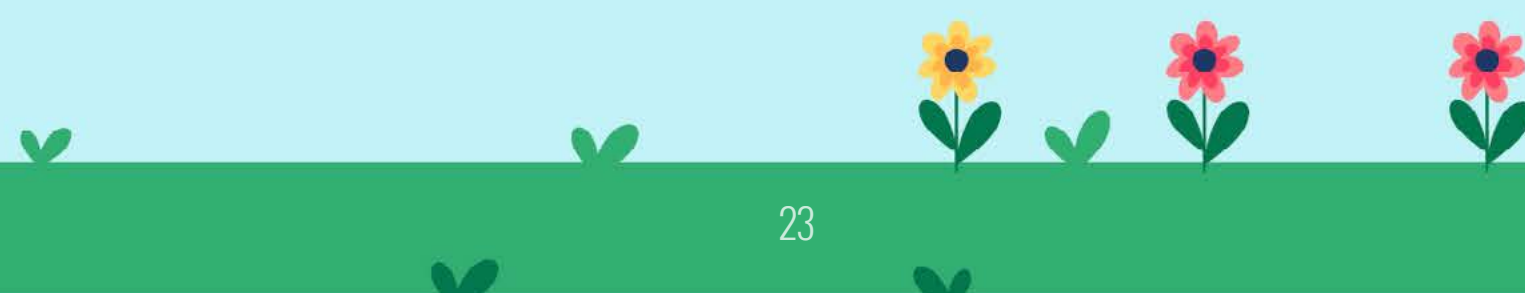
Importance	Herbs	Shrubs	Trees
Crucial habitat and food source for organisms (e.g., pollinators)	✓	✓	✓
Prevention of erosion and safeguard against the loss of topsoil		✓	✓
Provision of shade, reduction of heat stress and mitigation of climate change			✓
Provision of microclimates, support of biodiversity by providing refuge to animals		✓	✓
Culinary, medicinal, aromatic, and ornamental properties	✓	✓	✓
Sustainable gardening	✓		
Ecological restoration value		✓	
Nutrient cycling	✓	✓	✓
Water management		✓	✓
Wood provision			✓
Economic benefits			✓
Cultural connection and intrinsic importance	✓	✓	✓

Species of herbs, shrubs, and trees are essential to preserve biodiversity because they all have ecological importance. Through sustainable practices, reforestation efforts, and education, we can ensure the preservation of these invaluable resources and exceptional natural heritage for generations to come.

Increasing availability of flowers and fruits for pollinators

Increasing the availability of wildflowers and fruits throughout the year involves promoting a healthy and diverse ecosystem that supports the growth of various plant species. While you cannot directly control wild plants, there are several steps you can take to encourage their growth:

- **Native plant promotion:** Encourage the growth of native wildflowers and fruit-bearing plants. Native plants are adapted to the local climate and soil conditions, making them more resilient and likely to thrive throughout the year;
- **Habitat restoration:** Work on restoring the parts of your school yard that have been degraded or damaged. This can involve removing invasive species, replanting native vegetation, and improving soil quality;
- **Seed dispersal:** Help with seed dispersal by facilitating the presence of birds and other wildlife so they



can spread seeds naturally;

- **Water management:** Ensure a stable and sustainable water supply in the area;
- **Educate and raise awareness in your school:** educate teachers and children about the importance of preserving wild habitats and the role of wildflowers in supporting biodiversity;
- **Encourage responsible practices such as not littering;**
- **Create pollinator - friendly gardens:** Planting pollinator - friendly gardens with a variety of flowers can attract pollinators to the area. These animals play a vital role in the reproduction of wild plants.



Increasing the availability of flowers and fruits throughout the year implies increasing the availability of pollinators. But how do we do that? Here are some strategies to encourage and support pollinators year-round:



Plant a diverse range of flowering plants: this provides a continuous food source for pollinators throughout all seasons;



Use native plants that provide the best resources for local pollinators. Native plants often offer more nectar and pollen, attracting a greater diversity of pollinator species;



Incorporate different flower shapes and colors: different pollinator species are attracted to various flower shapes and colors;





Create habitats that offer nesting sites for different pollinators, such as solitary bees, butterflies, and other insects. This can involve preparing bug hotels and nesting boxes;



Avoid the use of chemicals: pesticides can be harmful to pollinators;



Install water sources: set up shallow water sources, such as birdbaths or small ponds, to provide a drinking spot for pollinators.

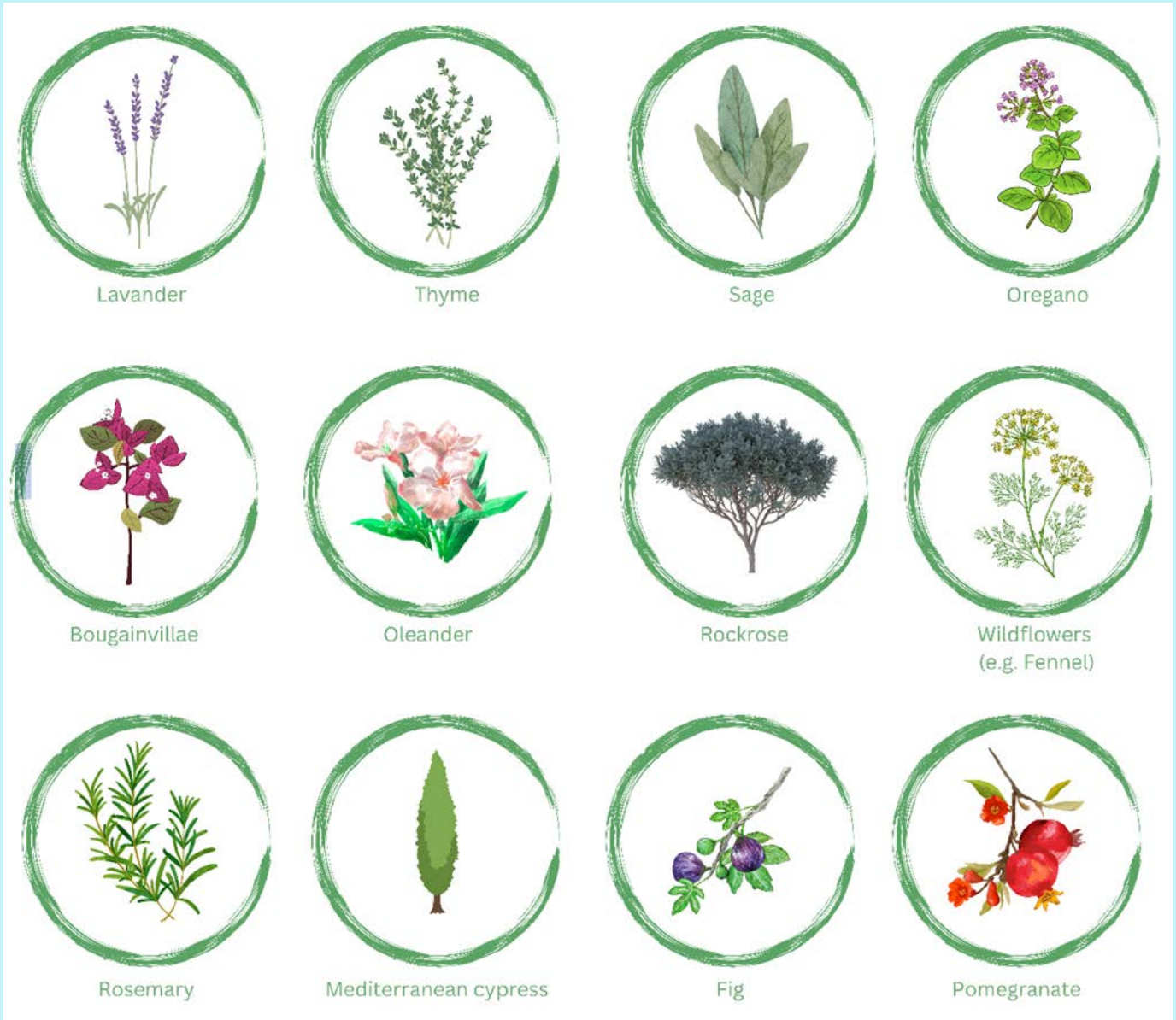
Supporting pollinators is not only beneficial for nature but also crucial for global food production and biodiversity conservation!

Which plants are the most suitable?

Creating a wildlife garden involves selecting plants that are well-adapted to the region's climate and can support a diverse range of local wildlife. Planting local species will not only ensure the success of your garden but also will prevent the invasion of alien species.

The following list is certainly not exhaustive for your country and it is likely that some species do not grow naturally in your country. Please, do a little research before starting your garden and make sure you are only using local species.





With their vibrant colors, nectar - rich flowers, nesting sites, and nutritious fruits, these plants attract a variety of organisms including pollinators such as bees and butterflies, and birds.

When designing a wildlife garden, consider including herbs, shrubs, and trees to provide different levels of shelter and habitats for wildlife. Native wildflowers that bloom at different times are great to have because they provide continuous food for pollinators. And by supporting pollinators and providing food and shelter for wildlife, you can create a beautiful and sustainable wildlife garden that contributes to the conservation of local biodiversity!



Ponds, streams, dams and fountains ... the magic of water

Ponds, streams, dams, and fountains play crucial roles in ecosystems and human environments. They support diverse aquatic life, provide habitats for plants and animals, and serve as water sources for agriculture, industries, and communities.

Water bodies are rich ecosystems that sustain a wide range of aquatic species. They facilitate nutrient cycling, provide breeding grounds for fish and amphibians, and offer shelter for insects and other aquatic organisms. Additionally, they add aesthetic beauty to landscapes and often become focal points in parks and gardens. People find tranquillity in the sight and sound of flowing water, making them popular spots for relaxation and recreation. Throughout history, they have held cultural and religious significance for many civilizations, and have been sources of inspiration for art, literature, and folklore. Moreover, fountains provide cooling effects in hot climates and contribute to the ambiance of public spaces.

Protecting and restoring water bodies is essential for conserving biodiversity. Efforts to reduce pollution, maintain water quality, and preserve riparian habitats are critical for the well-being of aquatic ecosystems. Water bodies, however, can face challenges such as pollution from runoff and human activities, invasive species, habitat destruction, and altered water flow due to development.

Water bodies also offer excellent educational opportunities for students of all ages. Kindergarten schoolyards featuring water bodies, such as small ponds or streams, offer exceptional opportunities for immersive learning experience. These water bodies within school premises serve as miniature ecosystems, introducing young learners to a diverse array of species. From frogs, insects, and aquatic plants to birds, children can observe these inhabitants up close, fostering a sense of curiosity and wonder.



Moreover, water bodies provide a tangible environment that facilitates teaching fundamental concepts like food chains, habitats, and the intricate interdependence of living organisms. Through direct observation, these abstract notions become more accessible and comprehensible. These water bodies further serve as educational platforms for exploring plant growth and the fascinating world of life cycles. Young minds can observe aquatic plants, grasping their role in providing essential habitats and oxygen for underwater life. Additionally, these ecosystems offer the unique opportunity for children to witness life cycles unfolding before their eyes. They can observe the remarkable transformation of tadpoles into frogs, the mesmerizing metamorphosis of insects, and the dynamic seasonal shifts within these watery environments.

Water bodies in schoolyards encourage sensory exploration and can be integrated into play areas. Children can play with water, observe ripples and reflections, and engage in imaginative activities that foster creativity and cognitive development. Teachers can design activities like nature walks, pond dipping, and water-based art projects that utilize water bodies as educational tools.

Early exposure to water bodies raises awareness about the importance of preserving these habitats. Children develop empathy for the creatures they encounter, instilling a sense of responsibility for their well - being. By appreciating the biodiversity in water bodies, children then develop values of conservation and respect for nature. These values can carry forward into their attitudes and actions as they grow.



Gardening throughout the year, healthy environment and healthy food

Gardening in schools can help to teach children about environmental stewardship and the importance of protecting natural habitats. It can also help to address some of the environmental challenges that we face as a society, such as climate change and habitat loss.

Gardening in schools can provide students with healthy, fresh food and teach them about the origins of their food and how to make better choices about what they put on their plate.

To create a gardening area in school grounds, you need to follow these basic steps:

- Get administration permission.
- Engage your community (teachers, parents and children) by scheduling brainstorming sessions and offering multiple times and dates to attract individuals with different schedules.
- Organize your group by electing a smaller committee to be responsible for guiding the project. Then determine garden program goals.
- Design the garden. It will depend on the available surface, keep in mind to grow preferably wintering plants, in July-August pupils won't go to school, so if you want them to observe and learn in the gardening you must use plants that grow from November to June. Otherwise, it is important to find someone who can carry out the project during summer.
- Identify needs and obtain resources.
- Find funding.
- Value volunteers, not all the work must be done by pupils and teachers, volunteering from parents is of a high value. Some of the parents might have a lot of expertise, they can also help to start the project and carry it out. Involvement of parents helps to valorize the project.
- Use the gardening, not only to learn about plants growing and other ecological issues,; use the gardening project to also talk about:
 - vegetable consumption.
 - The importance of a healthy diet.
 - Proximity products.
 - The seasonality of the food we eat.
 - Interesting vegetable recipes for a healthy diet.
 - Cultural aspects of some of the products we grow.

Through the school garden project, all curricular aspects can be worked on, in addition to improving the relationship between children in a collaborative activity, encouraging cooperation, and facilitating contact with nature.



Shadow green spaces as shelters against Climate Change

To contribute to mitigating and adapting to climate change and improving the quality of life of citizens and of children, in particular, it is highly recommended to create shadow green spaces in the school grounds. Look for a shadow area, if you don't have any yet, keep in mind the important role of trees. Then plant the trees, in areas with soil that also allows herbaceous and shrubby vegetation to grow.

In the specific case of the Mediterranean, one of the areas most affected by climate change, actions to deal with the effects of rising temperatures and increasingly frequent heatwaves will be adapted by expansion of green areas and shaded areas, and the installation of water fountains in school playgrounds. These measures aim to protect children against these and other risks arising from climate change, and to improve the schools' adaptation to this new situation. Even consolidate spaces in which students can "learn and feel comfortable" in a context of rising temperatures, and to minimize the impact of greenhouse gas emissions on these educational environments.



Maintaining our biodiversity - a task for the whole community

Biodiversity, a term encompassing the incredible array of life forms on our planet, is a source not only of wonder and beauty but also a crucial cornerstone for ecosystem stability, sustainability, and resilience. Recognizing the pivotal role that early education plays in shaping attitudes and values, it becomes evident that upholding biodiversity is not solely the responsibility of governments and conservation organizations - it's a shared commitment within the entire educative community, including kindergartens.

Kindergartens serve as the initial stepping stones in a child's educational journey, where seeds of environmental consciousness can be sown. These formative years are crucial for instilling a foundation of care, curiosity, and understanding about the natural world. By integrating discussions about biodiversity in age-appropriate ways, educators can foster a lifelong connection between young children and the ecosystems that surround them. Simple activities like observing local plants and animals, nurturing a class garden, or learning about different habitats through stories can spark wonder and interest.

Kindergartens can create mini-ecosystems within their campuses, such as butterfly gardens or small ponds, which provide hands-on opportunities for children to witness biodiversity in action. By embracing a variety of teaching methods that cater to different learning styles, educators can ensure that every child gains a fundamental understanding of biodiversity's significance.

Moreover, educators can use simple language and interactive tools like games and visual aids to introduce concepts such as food chains, animal habitats, and plant life cycles. These early foundations will pave the way for more advanced ecological understanding as children progress through their educational journey.

In conclusion, kindergartens hold a vital role in nurturing the seeds of environmental responsibility. By fostering a love for nature, an understanding of biodiversity, and a sense of stewardship from a young age, kindergartens contribute to the broader global task of preserving our planet's rich tapestry of life. Through collaborative efforts within the educative community, including educators, parents, and young learners, the mission of biodiversity conservation becomes attainable and sustainable.



7.2. Facilitating the use of outdoor spaces

- How to create different atmospheres and scenarios in the yard

The school playground is a space capable of developing multiple dimensions. A good one concept, considering use and organization, can help us reinforce and enhance elements, that are keys to cognitive development and learning processes.

We encourage the educational communities to ask questions and imagine indoor, and outdoor classrooms, what do we want to happen outside. In terms of learning, feeling/enjoyment and competence and skills development. From here you can rethink the uses of each space.

In order to carry out the necessary transformation, it would be good for the educational community consult at a communicative level, with the teachers, families, the City Council and as many local allies as possible. If communication works, it will be much easier for you to find agents of change, ideas and help.

We think that the most profound and successful transformations are ones done little by little. You don't have to change everything at once, you can do it in phases, every year one step. Take advantage of all the festivities and special days to work with families!

Below you have a collection of images with elements that favor the classroom outside.



7.2.1 Create corners

Experimenting - water, sand, etc.

We believe that experimenting is the best way to grow and learn, to see how the manual force influences the mechanism and how it intervenes in the flow of water, gives an added value to the play and to the playground.



Mossèn Jacint Verdaguer School (Catalonia, Spain)
Enjoy quiet (reading, resting, etc.)



A space of recollection, calm and “invisibility”. A space to hide and generate imaginative encounters. The living elements provide a global and meaningful education.



quiet space

Interact and chat
Spontaneous meeting space.



Bellvitge School (Catalonia, Spain)



Observe nature
Watchtower to expand the knowledge of the environment.



Sant Roc Paüls Hermitage (Catalonia, Spain)



Be creative

Creative corner

A space of confluence, a multipurpose and creative space for outdoor classes, or drama/theatre play, to enrich the outdoor experience.



Ítaca School (Catalonia, Spain)



Gayarre School (Catalonia, School)



Enjoy physical movement

A corner to encourage movement from a perspective other than sports.

Challenge of motor and balance skills for children over 3 years old.



Til-ler school (Catalonia, Spain)



Xirinacs (Catalonia, Spain)



8. Learning to manage risk in Early Years

As an educator, if I asked a parent if they would like me to put their child at risk, the answer would surely be no; but if I asked a parent if they would like me to challenge their child, then I would anticipate a yes response. It is important to highlight that everyone's perception of risk is different. What I am comfortable with may be a stretch too far for others. In an educational setting it is important to discuss, challenge and assess risk in the spaces you use, whether these are within the school boundary, or outside of the walls if using spaces like parks, beaches, or woodland for example.

Most things we do incur some level of risk whether using scissors, crossing the road, or driving a car. We do these things without really considering the amount of risk; these are things that we have been taught and practiced so frequently we no longer see them as risky. The same could be said for using outside spaces. With time and practise our mindsets can change and it can become part of our day to day. The more often you go outside, the more routines you develop, as well as a greater awareness of what you need, the result being better self - regulation because it is just part of the normal day.

Learning to assess the level of risk and the possible consequences of an action all come as we grow and develop over time. By exposing our children to some considered risks they will develop a sense of when to be careful, to identify potential problems and discover solutions to them, and to feel the sense of achievement having successfully faced an obstacle, completing a given task. This helps build self - esteem and a positive self - image.

The risks we all take may not only be physical ones, there are social and emotional aspects too. For some children just being outdoors, especially if it this is a less familiar setting can be an emotional challenge simply the amount of open space is something to cope with and discovering how to regulate behaviour within that place. In the outdoor environment, children are dealing with new **sensory experiences** such as wind blowing through leaves, birds singing, new sights and new smells. There are physical considerations like climbing over things, moving branches or other found materials or running over rough terrain. Being in a group and having to communicate with others or talking with a partner when carrying a heavy branch to make a shelter provides opportunities to develop social and relationship skills. When a person overcomes a challenge, whether it is one they have set themselves, or by others, and we are given chance to reflect on how we feel, and to develop our

own confidence, self-worth, and resilience.

Children can be involved in the assessing of risks attached to new spaces or outdoor equipment. You could gather their concerns or thoughts of how to resolve anything that may be a problem. They may even like to be involved in setting 'rules' for how equipment is used or carried. Whatever approach and decisions you make, the pupils should 'see' the process. It is not a substitute for your preparation and judgement but is a vital element in teaching children about making risk judgements. A good example of accepted and reasonable risk taking would be learning to run - an activity we would all encourage and accept without question. You would not ban running because of one fall on sports day or in the playground. Furthermore, we would expect staff to make reasonable judgements around this - on sports day you support running faster, in the school corridor you advocate walking.

It is important that you focus on the real and significant risks. A minor slip or tumble on grass would not appear on a risk assessment. Falling off an item of play equipment high enough to cause a significant injury would. In the UK, the Health and Safety Executive consider serious risks as ones that lead to broken bones, head injuries or an injury/fright that may limit the person in future, or worse.

Some benefits of risky play or challenge are longer term, whereas many risks can be immediate, and there can be multiple risks and benefits. In our running example - colliding in a corridor is very immediate, but the long-term benefits of running include increase physical literacy, improved health and wellbeing alongside potential future careers or pastimes.

To summarize, providing children with adequate risk and challenges is necessary for their healthy development.



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