

THE CHALLENGES OF SCHOOLS IN NATURE IN SPAIN

EIS REPTES DE LES ESCOLES A LA NATURA A ESPANYA

Ivet Orellana Vidal. Tutor: Jordi Díaz Gibson
Facultat de Psicologia, Ciències de l'Educació i de l'Esport Blanquerna. Ramon Llull
Grau en Educació Primària en Anglès. Treball de Final de Grau.

Resum: Aquest article té la finalitat, en primer lloc, de descriure i introduir els principis i beneficis que té l'educació a l'aire lliure en el desenvolupament dels nens i nenes. En segon lloc, l'objectiu és analitzar i poder entendre la situació en que es troben les escoles a la natura a Espanya, és a dir, conèixer quina és la seva realitat actual a partir de l'anàlisi de les lleis que les afecten i la identificació de les seves necessitats, les dificultats i els reptes amb els que es troben per tal d'establir-se en aquest país. L'estudi d'aquesta recerca s'ha fet principalment a partir d'entrevistes a experts i a persones que han creat específicament una Escola Bosc a Espanya. La recerca conclou que el principal impediment per a la introducció i creixement de les escoles a la natura és la falta d'una legislació que reconegui la seva tasca. Els experts coincideixen que és degut, en primer lloc, a la poca flexibilitat del sistema i en la no comprensió dels projectes des dels diferents sectors ja que no hi ha referències anteriors al país. Les escoles confien que amb el pas del temps i molta feina aquesta percepció canviï i que se les pugui reconèixer, i fins i tot regular, i que quedin normalitzades com una opció més per a les famílies dins de l'oferta pública d'escoles.

Paraules clau: educació a l'aire lliure, escoles bosc, escoles a la natura, educació ambiental, pedagogia verda, pedagogia centrada en la natura, ecopedagogia.

Abstract: This article has the finality to, in a first place, describe and introduce the principles and the benefits of Outdoor Education in children's development. Secondly, the aim is to analyze and understand the situation that schools in nature have in Spain, so which is their actual reality, analyze the laws concerning about this and identify the needs and the difficulties that they have to face in order to establish in this country. The study of this research has been done mainly from interviews to experts and people who created specifically a Forest School in Spain. This research concludes that the main impediment to the introduction and growth of schools in nature is the lack of a legislation that recognises their work. Experts agreed that is because of the non-flexibility of the system due to the non-comprehension of the projects from the different sectors because there isn't any previous reference of it in Spain. Schools trust that with the passage of time this perception changes and that they can start to be recognized, regulated and normalized as an option more for all families inside the public offer.

Key words: outdoor education, forest schools, learning in nature, environmental education, green pedagogy, nature-centered pedagogy, ecopedagogy.

1. INTRODUCTION

Nature is much larger and older than we are, it is not limited by time or confined by walls, nature is where we are from and where we belong. For children it is the greatest playground of all, with all its diverse structures, smells, textures, sensations, its creatures of all shapes and sizes, its abundant plants... Nature offers a myriad of opportunities for learning and many experiences to live, why not to leveraging them?

Many recent researches show a large number of benefits that nature and spending time in the outdoors have on learning and on the development of the children in all aspects -cognitive, emotional, physical, sensorial and social- and also in their mental and physical health and attitude towards life, nature, animals, plants and humans, so the planet in where we all live.

Countries as Germany, Norway or Denmark have more than 100 years of experience in outdoor education in kindergarten but also primary education, and good results have been proved. In Catalonia and also Spain this phenomena has started to grow in the early years but it is doing it slowly with many difficulties. Seeing the benefits of the outdoor education pedagogy, why it is having big problems to get introduced in Spanish educational system? This is what this research analyses. The aim of this exploratory research is to be able to understand the actual situation of schools in nature in Spain, identify in which point they are, the difficulties, limitations and challenges they are dealing with and how are they making progress. With this purpose we start a process of from the gathering information and interviewing experts in the field in order to respond to our research objectives.

2. OUTDOOR EDUCATION

The idea of Open Air Schools (movement of outdoor schools) began in 1904 in Germany and was spread throughout Europe and America especially during the 50's. On that time the idea was deeply introduced in Sweden, Denmark and other European countries, mainly from northern Europe. Denmark was, and still is nowadays, one of the pioneers countries who extended this type of school under the name of Udeskole, a movement that began Ella Flatau. However, the specific idea of Forest Schools was born in Wisconsin (United States) in 1927 by H.L. Russell.

In Spain, the first steps take place at the end of the 19th century and the beginning of the 20th with Rosa Sensat and with the Institución Libre de Enseñanza. In 1914 "Escola del Bosc de Montjuïc" started up by Rosa Sensat, following the Open Air Schools movement. However it wasn't until 1922 that Hermenegildo Giner de los Ríos contributed to the creation of the first oficial Forest School, "Escola del Mar de la Barceloneta" and afterwords "Escola del Parc del Guinardó". The Civil War and the Franquist stage supposed the dissolution or closure of those schools and also of the Institución Libre de Enseñanza in 1940 that didn't appear until 1978.

In 2011, the first Forest School of the 21st century in Spain borns in Madrid, the "Grupo de Juego en la Naturaleza Saltamontes" and it is from 2014 approximately when this movement resurfaces with strength and spread more quickly. There are currently about 34 schools of this type in Spain (March 2019).

The first Forest School in Catalonia appeared on 2015, was l'Escola Bosc de Rubió on September 2015, the second one in Spain. Nowadays we can find 6 Forest Schools in the Catalonia; this is nothing compared with the more of 300 schools that exist in Norway or Denmark, 200 in Sweden, more than 140 in Great Britain or Czech Republic or the 1.500 that are in Germany.

2.1 What is outdoor education:

Outdoor education has been defined in a variety of ways throughout its history and stills nowadays. According to Priest (1986), outdoor education is "an experiential process of learning by doing, which takes place primarily through exposure to the out-of-doors". Phyllis Ford (1986) described it as "education in, about, and for the out-of-doors." This definition delineates where the learning takes place (in any outdoor setting), the topic to be taught (the outdoors and any cultural aspects related to the environment), and the purpose of the

activity (developing knowledge, skills, and attitudes about the world). He also states that outdoor education can be referred to as a method or process for extending the curriculum, or a process involving direct learning experiences. Some say it is a place, and others consider it to be a topic; this can be related with what Richardson & Simmons (1996) said, “outdoor education was used mostly for nature study and today, it includes outdoor experiences designed to meet objectives in many areas”. Free learning through experience and play, discovery and interaction with the natural environment where kids are, are the main definitional aspects that Anna Parisi (2018) gives about Outdoor Education. She states that “is a learning based on the personal experience and the subsequent interiorization of each child by their own in where can elaborate it in an original and profound way”.

Simon Priest (2010) on his article *Redefining Outdoor Education: A Matter of Many Relationships*, get to the conclusion that we can describe outdoor education as a method for learning that is experiential, that takes place primarily in the outdoors, requires use of all senses and domains, is based upon interdisciplinary curriculum matter and is a matter of relationships involving people and natural resources.

Finally, Heire Freire (2011) introduced a new concept while speaking about outdoor education. She denominated it “green pedagogy”. She describes it as a pedagogy centered especially other in other human capacities such as intuition, emotions and sensitivity through experiences and concrete experiences of the person that stimulates a deep sense of connection with life, with oneself and with others and that fosters the capacity for empathy and responsibility. She also states that “green pedagogy uses the landscape as a way to understand the world and promotes a positive attitude of the ecology that favors the development of an authentic environmental conscience”.

“Ecopedagogy”, a term used by Fernández Herrería (2010) is another term and idea to refer on this type of Education.

Programs in learning about the outdoors occur at all levels in the educational system, although they are most frequently found in kindergarten or elementary schools. Those schools that offer an outdoor education are mainly known by *Forest Schools*, however there are experts that prefer to talk about *Schools in Nature* as not all of them are located in forests. For that reason *Schools in Nature* is the term that is going to be used in this research when speaking of schools based in the outdoor education methodology. This schools can also receive the names of *Udeskole* in Scandinavian Countries (making reference to the *Friluftsliv* Scandinavian concept which means freedom-air-life), *Waldschulen* in Germany, *Escuelas Bosque* or *Bosque escuelas* in Spain and *Escoles Bosc* in Catalonia. However this type of education can take place in both natural and cultural settings, not only in the school: in the forest, the coast, in the field, parks, local communities, factories, farms, galleries, theaters, etc, or those schools itself can own and operate gardens, mini-farms, or wood lots (Ford 1986).

Houghton and Worroll (2016) describe forest schools as an inspirational process that offers all learners regular opportunities to achieve and develop confidence and self-esteem through hands-on learning experiences in a woodland or natural environment with trees. *L'Escola del Bosc* defines itself as a space where nature is the learning environment and children can have freedom to explore, investigate and experience learning in a real context. It wants to be an opportunity for children to enhance their intrinsic skills and important aspects as innate sense of belonging and respecting nature.

Finally, the National Association of Education in Nature (EDNA) of Spain, defines education in nature (or outdoor education) as the integral formation of people through regular, direct

and permanent contact with wild nature and in which this constitutes the reference scenario, the source of materials and the unifying thread of a respectful life style with nature.

2.2 How do Schools in Nature work:

Every School in Nature is a world, everyone functions in a different way and also have different learning spaces, however all of them share the same characteristics and are based on a common values and principles. The most characteristic and determining aspect of a School in Nature or Forest School is that the children maintain all year long direct contact with the outdoors, even though of the weather and temperature, and their activities are mainly developed in nature. Forest School Association (2011) with the agree of the Forest School community described the six main principles of a Forest School, are the following ones: (see table 1)

Long-term process	Regular sessions are important for connecting with the natural environment. To visit the same place frequently permits to see how it changes with the seasons so it allows children to know the space in greater depth and it really leads us to reconnect with nature and feel that we are part of something greater, with all the emotional benefits that this entails.
In local forests	Schools take place in the natural environment, preferably in an area with trees. The forest is a multisensory space with variety of resources and with a great educational value.
Integral development	Developing cognitive, social or emotional intelligence is just as important as working on problem solving.
Risk activities	Risk management. The goal is not to eliminate all the risks of children's lives, it is to give them tools and support to manage them, always bearing in mind the degree of maturity of each infant.
Student-centered	Children direct their learning most of the time but the guide (teacher) is always there to enrich the experience, offer support, tools and knowledge. The activities are flexible in order to respond the interests of students.
Guide with specific training	In the United Kingdom is required the level 3 degree in "Forest School" (Open College Network West Midlands Level 3 Certificate for Forest School Leaders) and also the first aid courses in the open air and pediatric first aid in order to work as a teacher in a Forest School.

Table 1: Forest School Principles.

The most important space of a Forest School or School in Nature is everything that is not the school itself, it is nature and the space were the school is located. The Forest Schools that we found here in Spain, all of them work in a similar way. They own a cabane or a small building in the middle of nature that works as a refuge and as a meeting point with families. Also, is normally used to keep some material that they can need in the forest, for the nap time or to have lunch.

According to Loira (2018), specialist and trainer in Forest School Education, in schools in nature: “They try to find the equilibrium between phases less structured as free play where kids have total autonomy, and guided activities when they, for example, learn to count or to recognize symbols”. Free play gives children space and independence, and a chance to imagine and learn social skills, while adult-guided activities children build new skills, vocabulary and the ability to manage risk, creating a positive self-identity and the laying foundations to be a successful lifelong learner.

Another important characteristic of schools in nature is that they want to be part of the community, to make children learn from it. For that reason is very common that schools have a marked day to go for a trip and visit something of the community. It can be going to buy fruit in the market, visiting a museum, the library, another park or forest or even another town close to theirs. Also they believe in intergenerational learning so groups are not made according the age of the kids.

According with Carol Cooke (2012), Coombes teacher, the most important things are laughter and fun and enjoyment. Those 3 aspects are the first product of schools in nature and they totally believe that must be associate with learning because if they are not learning it's painful, difficult and uncomfortable.

2.3 Benefits:

Children are immensely curious and have a strong desire to play and explore the world around them and, by making choices in this way, they actively drive their own learning and development. Researches, and the Constructivist Model from Piaget (1952) and Vygotsky (1978), suggests that young children learn best from experience as knowledge is constructed and shaped by it, so by using their senses actively they can achieve a personal interpretation of the world. Constructivism also understands learning as an active process that should be presented holistically within real-world experiences, and is because of this that learning remains with us into adulthood.

Providing varied outdoor experiences can help with this development explained before. Forest Schools uses a therapeutic educational learning that aims to maximize social, emotional and developmental potential by allowing children to manage risk, have more independence in guiding their own learning, achieve goals, be active, play and learn through direct experience within nature.

In the following table there is a summary of the benefits found that the education in nature and of spending time in the outdoors have in de holistic development of our children. (See table 2)

Category	Improval or gain of abilities:
Personal growth	<ul style="list-style-type: none"> - Self-esteem - Independence and autonomy - Responsibility for actions - Risk management - Orientation - Ability to marvel → encourages motivation
Social skills	<ul style="list-style-type: none"> - Cooperative work and teamwork - Improve social relationships - Resolutions of conflicts in a peaceful way

	<ul style="list-style-type: none"> - Compliance with the rules and respect for them <p>No gender conditionings are found in the forest</p>
Cognitive skills	<ul style="list-style-type: none"> - Expansion of the capacity of reasoning and observation - Expression - Precision - Memory - Ability to solve problems
Artistic skills	<ul style="list-style-type: none"> - Creativity - Imagination - Fantasy
Emotional and sensorial skills	<ul style="list-style-type: none"> - Empathy - Concentration - Attention - Reduction of stress - Silence and reflection
Motor Skills	<ul style="list-style-type: none"> - Improval of their psychomotricity and their abilities - Develop their potentialities
Health benefits	<ul style="list-style-type: none"> - Prevention of illnesses - Beneficial specially for kids with THD
Attitude and knowledge towards the environment	<p>Attitudes and values</p> <ul style="list-style-type: none"> - Empathy to other human beings - Responsible actions and behavioral orientations - Desire to look after the environment - Improvement of their behaviour in natural areas and their household environmental practices.
	<p>Knowledge</p> <ul style="list-style-type: none"> - Develops students' environmental knowledge

Table 2: Benefits of Outdoor Education.

Those benefits summarized in the table are well developed in the nexts paragraphs:

The Coombes experts, Rowe and Humphries (2012), believe in teaching young people to manage risks for themselves and take sensible decisions which will make them safer. The adventurous training helps children to develop as mature adults, being responsible and mindful of others. Also they state that learning outside the classroom helps young people to develop the ability to cope with and experience a wide variety of challenges as it requires them to make informed choices and to understand and take responsibility for the consequences. It leads to a positive 'can-do' attitude.

Rodríguez de la Fuente (2015), director of Fundación Félix Rodríguez de la Fuente and responsible of training and coordination in Bosquesuela School said:

“Children who are educated in the openair [...] they have a lot of empathy, they strengthen their self-esteem, they develop their creativity and they value teamwork a lot”. She also explains that the movement in outdoor spaces favors sensory integration, and nature

represents the perfect environment for children to achieve this degree of neurological development essential for the understanding and processing of these subjects. "What children find in nature are experiences and those have a much greater impact on a child's learning" states Philip Brucher, founder and director of Bosquesquela Cerceda.

"There are many things we want to explain in an abstract way when it is better to do it in reality," explains Javier Urrea, a psychologist, member of the Spanish Academy of Psychology and former defender of the child in the Community of Madrid. Heire Freire, expert in childhood and the relationships between health, well-being and learning in nature, also agrees with this. She says that conventional education is essentially biophobic, term denominated by David Orr (2004): "it is cut off from its surroundings, it uses abstractions and falsifications, it leaves out life." "Nature allows you to touch, smell and see, those memories survive with greater strength", states Javier Urrea.

The Biophobia concept can be also related with the *agoraphobia* concept used by Freire (2012). She says that our culture tends to become agoraphobic: "We have developed an intense fear of the wide and open spaces that we strive to delimit, fence, scratch and limit in a thousand ways. The more we move away, physically and emotionally, from our connection with the rest of beings and elements that populate the Earth, more difficulties we have to relate with them and the more we close ourselves in our bubble."

In the other hand Heire also speaks about the term *Biophilia* used and developed by Wilson (1984). The hypothesis of biophilia suggests that the human brain is programmed to relate to other living beings. As a result of contact with other species, animals or plants, important changes in their structure can occur, which translate improvements in the knowledge, health and well-being of people. Biophilia is a congenital attraction for life, an interest in nature in all its manifestations; an innate tendency to assign value and importance to the natural world that can be modeled by culture. Thanks to it, we develop attention and empathy towards non-human beings, and it is an important force in defense of the planet's threatened biodiversity.

Continuing with Heike Freire, in the video "Los siete pasos para educar en verde de Heike Freire" she emphasises about the feeling of belonging to a community that children really need and that they can found in the open space in nature. Contact with nature is also perceived as a safe place with the sensation of freedom and joy by children. All this allows them to reduce the impact of stress, an aspect that is especially important in today's society. Also she focuses on its educational advantages. Those are that nature allows to improve the cognitive development expanding the capacity of reasoning and observation of the children. It also offers the possibility of developing in a natural way their psychomotricity, their abilities, their ability to solve problems and their sociability. In addition, it enhances imagination, creativity and the ability to marvel, a decisive aspect to encourage motivation in children. She also says that strengthens the sense of independence, autonomy, sharpens orientation and helps to reduce school failure as learning becomes something enjoyable.

In the video she also speaks about children diagnosed with TDH that supposes problems in concentration and hyperactivity. The Landscape and Human Health Laboratory of the University of Illinois, EEUU, made an investigation in where children with TDH were brought every day during some hours to natural spaces, the results were that all this children recovered their lack of attention.

In a Danish case study, the pupils expressed a significantly higher level of well-being, improved social relations and joy while being taught in the outdoors compared to classroom teaching. According to Häfner (2002), learning in nature fosters concentration, attention, independence, expression, precision, reduction of stress, social behavior, compliance with the rules and respect for them, the resolution of conflicts in a peaceful way, creativity, fantasy and the relationship with nature. Loira explains that as kids in Forest Schools doesn't

have prefabricated objects they build their own materials or characterise what is around them they stimulate a lot their creativity and imagination. Moreover, there aren't conditioning of gender as a stick can be a doll, a dragon or a car, everything that every kid wants.

This can be related with what Paris (2018) says: she defends that in the outdoors children improve their physical abilities and develop their potentialities; also their physical health, attention and memory are benefited, and also with the conclusions of the research made by Carreras (2017): education in the outdoors helps emotionally to self-esteem, cooperative work, silence and reflection, and motivates the child to balance and prevent illnesses.

Based on various studies and in a recent report from Higgins (2013), point out that outdoor learning is a central axis of the Scottish educational system and do not understand outings to nature as a complement, but as an essential part of the school activity and conclude that:

1. There is solid evidence that learning in nature contributes to curricular and interdisciplinary learning and to intellectual, physical, emotional, personal and social development.
2. Outdoor learning in a broad sense, should be a daily experience for all children who pass through the education system.

A study conducted in Germany by Roland Gorges ("Waldkindergartenkinder im ersten Schuljahr - Eine empirische Untersuchung") showed that children who had attended forest schools were above average in all the areas that were analyzed, both knowledge as understanding skills, reasoning, creativity, motivation and concentration.

Similar results were given by Peter Häfner's doctoral thesis at the University of Heidelberg. Häfner (2012) compared the performance in 1st grade of primary school (6 years) of the children who came from forest schools with the performance of those who came from conventional schools. In categories, such as physical ability, creativity, social behavior, cognitive tasks, the children of the "waldenkindergarten" had a performance clearly above that of their classmates.

Moreover, the American journalist Richard Louv raised the hypothesis of the existence of Nature-Deficit Disorder in 2008 in his book *Last Child in the Woods*, under which different diseases are grouped whose common cause could be the lack of contact with our natural environment. Those are depression, stress, attention deficit hyperactivity or anxiety. Especially at an early age the lack of contact with outdoor activities, can lead to devaluation of the senses, attention difficulties and high rates of physical and emotional illness. Also all this feeds back to another phenomenon: sedentary lifestyle. A study by the World Economic Forum suggests that young people who spend more time at home in front of a screen are more likely to suffer from attention deficit, obesity or sleep disorders. Also, according to a study by the University of Cambridge, these long periods have a negative impact on academic results.

Finally, environmental education research strongly suggests that learning experiences in the natural environment are extremely important in developing students' environmental knowledge, attitudes and values, responsible actions and behavioral orientations (Ballantyne and Uzzell, 1994; Roy Ballantyne & Jan Packer, 1996; Ballantyne, Connell, and Fein 1998; Bogner 1998; Lai 1999; Ballantyne, Fein, and Packer 2001a, Rickinson 2001; Tanner 2001; Ballantyne and Packer 2002).

Ballantyne and Packer (2010) in their research made a questionnaire to 580 students aged 8-17 years. From this, they confirmed that learning in natural environments is attractive to students and has an important impact on their attitudes towards the environment, their

desire to look after the environment, their behaviour in natural areas and their household environmental practices.

In this part we have seen all the benefits that contact and education in nature has. We could summarize them as an improvement and great development on all the aspects of the child: the physical (motor), their psychomotricity and abilities; the cognitive (intellectual), expanding the capacity of reasoning and observation; the emotional and sensorial, fostering concentration, attention, independence, expression, precision...; and the social, increasing their ability to solve problems and conflicts in a peaceful way.

Also as a way to come back to the reality, the naturality and simplicity but at the same time complexity of the world of nature that helps us to grow up happier, healthier and with a more ecological and sustainable view and love to all living beings (understanding all living beings as J. Lovelock (1985) proposes in his Hypothesis called Gaia, so not only as life beings but also inner matter as rocks, minerals or molecules in order to understand better the biodiversity of our world).

2.4 Outdoor education in Spain

According to the “Directorio de Escuelas Bosque Innatura”, there are many challenges to be achieved now in Spain in order to expand this “new” way of schooling, both in the short and long term. First of all Innatura speaks about the necessity to have a specific training in the field of nature schools, about the homologation of schools in nature (with their own characteristics) and that they can have a greater economic accessibility; all these 3 things could be summarized as to have institutional support and acceptance. They also put emphasis on the necessity of the expansion of the model, so to gain visibility but also to be spread in other educational levels as primary and secondary education. Finally the consolidation of the National Association of Education in Nature (EDNA) and its visibility and representation at an international level could help to make schools in nature possible in Spain.

Actual resources:

EDNA is an association and Innatura is a project that we can consider resources for schools in nature. They offer support, personal advising, information, training and formation for teachers, they publish articles about the transformation of the natural resources into didactic materials, etc, and offer other varied kind of help to the projects of education in nature in Spain. They also carry out a work of divulgation and diffusion of the projects but especially about the pedagogy and its benefits. Their main objective is to achieve the recognition of schools in nature and make the accessible for every family.

EDNA was created with the aim of being the media of representation in a nacional but also international level of the pedagogical projects in nature inside the Spanish territory.

Innatura also perform educative investigation as a way to favor the quality of the model and enrich the educational practices in nature.

Another resource that schools have is *El Safareig* created by Carme Col's and Pitu Fernández. They describe its blog as an space for communication and social exchange of experience and knowledge about childhood and education in nature. They opened a webpage in spanish and created a project with other teachers called “*De patio a jardín*” with the objective of being a resource for schools who want to create new natural spaces by transforming the ones they already have. They center they attention to the naturalization of the educative spaces and material.

4. DESIGN

4.1 Method

This study is an exploratory research, this means that it studies a problem that has not been clearly defined yet. The aim of this type of research is to have a better understanding of the existing problem, it does not intend to offer final and conclusive solutions to existing problems. It is used a qualitative methodology to carry out this research as it focus on obtaining data through open-ended and conversational communication based in interviews. In the same way is a transversal study. This means that the collect has been collected at the same time form various people that have in common their experience in Outdoor Education and on Forest Schools but within a different position. That's why they are separated into four differentiated groups.

4.2 Participants

In this research it participated four different type of profiles. All the participants have been chosen according the criteria of being pioneer people in the Outdoor Education and forest schools in Spain and Catalonia as it has been considered that their knowledge and experience would be large and complete in order to extract more significative results. (See table 3)

Type of Participant	Participant	Abbreviation
1. Forest Schools (Kindergarten)	Associació de l'Escola del Bosc (Escola del Bosc de Rubió) - Brigitte Escolar (<i>Founder, co-director and teacher</i>)	EBR
	Bosquescuola Cerceda - Silvia Corchero (<i>Founder, secretary and teacher</i>)	BEC
	Grupo de Juego en la Naturaleza Saltamontes - Katia Hueso (<i>Founder and teacher</i>)	S
	Follets del Bosc - Pau Blanch (<i>Founder and teacher</i>)	FB
2. Expert	Helena Rodriguez Bolzoni	H
3. Mix Model School	Escola Gabriel Castellà - Núria Ramon (<i>director</i>)	EGC
4. Association	Asociación EDNA de Educación en la Naturaleza - Bibiana Marful (<i>Founder and coordinator</i>)	EDNA

Table 3. Participants.

The first one, and more common in the interviews, are teachers of the first Forest Schools that appeared in Spain and Catalunya that at the same time have been the founders of the school in where they work, so they are experts and have experienced the fact of building up a Forest School. They are good references as they have lived all the process of construction

and also in a time where this was totally new in their country, and nowadays they are living the also difficult process of maintenance and evolution.

The second profile, that in my case is only filed with one person, is experts on the topic. In this case Helena Rodriguez Bolzoni. She did her Final Thesis of the Teaching Training Degree about the process of creation of a Primary School with Forest School methodology in Spain where she analysed all the aspects that are need it and with it she won the TFG award about so sustainable development and global justice of Universitat Autònoma de Barcelona. She also did a master about educative research and the TFM about the how to make the outdoor spaces also educative and part of the curriculum. She has been 3 years collaborating with the project of a l'Escola del Bosc de Rubió and nowadays she is the coordinator of the project for the Primary stage that is thought to start next september.

As I have not found any information that could be helpful for my research so about the concrete topic that I am threatening and the research question, I interviewed her as she has previously studied all this and I asked her what she has been discovering about the topic during all those years that she have been related to it.

The third one is also a concrete case. I interviewed the director of Escola Gabriel Castellà, a public school, that some years ago started a project with the Associació de l'Escola del Bosc about implementing the outdoor education in the curriculum of their school. It was a project that made Gabriel Castellà be the first school that had a mix model. However this school give up this project last year so their returned to be a conventional school. The case of this school is very interesting to know which were the difficulties that they had that made them give up the project.

Finally, the fourth is an interview to Bibiana Marful, the coordinator of the Asociación EDNA de Educación en la Naturaleza and also of a Forest School (Nenea) in Lugo. As it is explained before, EDNA is offering support and personal advising for the creation of Forest Schools in Spain and they are a good profile that helped me to identify the main problems those schools have to face and also themselves as association.

4.3 Instruments

The main instrument of this research are interviews done to all the experts explained before. I meet with Brigitte in l'EBR where I also spent one day as a volunteer there in order to see their methodology and to understand better their situation. I also met with Núria in GC and with Helena Rodriguez in the Universitat de Barcelona.

I did two interviews via skype, with Bibiana and Silvia and the rest by email. This is because it wasn't possible to meet this people for geographical reasons.

I used 4 different type of interviews, one for each profile of person that I described in the previous section. However, I added a question in the interview that I did to people in charge of the Associació d'Escoles del Bosc as they, moreover of being teachers in the schools and have participated in the creation of the school, they also offer formation and resources to other schools, that's because I was also interested in asking them about other conventional schools that want to increase their Outdoor Curriculum. In total are 4 interviews for the first group of people, and one for each of the others profiles described.

4.4 Procediment

The interviews had been developed in parallel regarding the availability of the participants, any other criteria has been followed. Once the information has been gathered a qualitative analysis was carried analyzing the dimensions and categories from the discourse of the

participant according to the two objectives. From this analysis, comparing the information extracted from the interviews and contrasting with all the previous information gathered in the theoretical framework, I made the discussion and developed my conclusions.

5. RESULTS AND DISCUSSION

Results from the first objective: Analyze the main difficulties faced by this type of education in order to establish in Spain.

Pre-school Education in Nature (Kindergarten)

Regarding the first objective, from the interviews made the most two common answers and the ones in which the participants put more emphasis on it were economics and the fact of not being recognized and authorized by the government, so about bureaucratic aspects.

They agree that one of the most important difficulties is to achieve enough economical resources to start the project but also to maintain it. All these schools are private, they do not receive any type of economical help or support so all the money for maintenance comes from the socis that are the same time are the families. This makes them be in a “economical scarcity”, literal words from FB, S, EBR and EDNA, and to have real problems to pay the workers if there is some mishap. Some of them consider themselves as non-profit associations as they are not earning money by doing this, they only gain the necessary to pay the workers, the installations and the material, everything is reinverted on the project.

As it can be seen, and also as the interviewers said, those are heart projects, projects in which the founders and the workers does not look for an economical gain. What they do is the type of education in which they believe despite of the difficulties, specially the economic one. However, as I have seen, not everyone can have the chance to start a project like that as it is quite impossible to live of it, workers need more sources of income to live.

Furthermore, those schools interviewed, with the exception of BEC, started the project knowing that they will not be recognized and authorized by the governmental institutions even though the difficulties that this could imply, starting from the economical aspects explained on the previous paragraph. Also all of them, again with the exception of BEC, did not looked for the homologation as they knew that this could mean to accept some requests in which they do not believe or they think they do not need. They do not accomplish some of the main requests asked by the *Ministerio de Educación de España* for opening a school and that is why they cannot exist as a school and consequently they can't receive any type of public economical resources. However, not looking for the homologation does not mean that they are not looking for the recognition and acceptance of their projects because this is their main objective as B. Escolar said in the interview: “The challenge to achieve is not that the administration homologates you but that recognises you”.

These requisites in order to build up a school are collected in el *Boletín Oficial del Estado (BOE)* (Mars 2010) in the *Reial decreto 132/2010, del 12 de febrero*. We can summarize them in 5 points and compare them with the situation and needs of the Forest Schools. (See table 4):

Topics	BOE	Schools in nature needs
1. Infrastructures	Concrete Infrastructures with minimum spaces and meters are stipulated. It has to be one classroom per age-group, playground area, gym, administrative rooms, spaces for students with special educational needs, library and computer room.	Less indoor space is need it, with one or two rooms it's enough for the time they aren't outdoors. They also don't need a playground area or gym as nature is their playground and place where exercise and play.
2. Staff	All the staff have to be graduated in Pre-School Education (or Primary Education) or be specialists in subjects like english, physical education and music.	They also need to have biologists, specialists in wild fauna and specialists of the environment of the place they are working in.
3. Curriculum	Have to follow their autonomous community curriculum	The only school in nature in Spain that follows the curriculum is BEC. All the other schools in nature in Spain also achieve what is written in the curriculum but as they don't assess or do directed lessons they can't prove their children achieve what is written in the curriculum.
4. Ratios	1 teacher per 25 children as maximum	They need 1 adult per 8 children as maximum.
5. Groups	The groups have to be organized by ages.	One of the characteristics of its pedagogy is the intergenerational learning, that's why they don't believe in separating kids by ages as the oldest kids can help and learn from the youngest and the other way around.

Table 4. Boe Law

As we can see, those requisites are really hard to be achieved and accomplished by any school in nature. First of all, all of these topics clash with their philosophy and pedagogy so basically they completely do not need any of those to succeed. The reality of schools in nature is completely different than any other and we can see it reflected in this table. Those requisites reflect only the reality of big schools with big amount of children inside a traditional pedagogy. Schools in nature are the clear example that we can educate children without having those minimum requisites or rules of organization but, nowadays, seems to be essential to do it as it is reflected on this law.

This law is the main reason why schools in nature cannot be recognized as schools.

On the other hand, we have to think that the legislation, so all these requisites explained before, is not the same for Rural Schools. Helena Rodriguez explained that Rural Schools does not have to accomplish with all those points: is not necessary to accomplish with the rooms, spaces or concrete meters and they can mix ages. However Forest Schools can't be treated as Rural Schools for two reasons:

- They haven't been created as a necessity of the families around a determined rural area far from any other public school.
- They are not public.

Interviewees explained that the non-recognition of their type of school is basically due to:

Non-flexibility of the system	Non-comprehension of the projects from the different sectors (public administration, education professionals and families) because there isn't any previous reference so any information, data or results in Spain
	Delay of innovation and fear to changes that still existing in Spain

Table 5. Reasons of the non-recognition.

If it is clear that the needs of the families and what they are looking for in order to give the best education to their children is totally different of what it used to be some years ago. Their preferences are changing and this is shown in the big amount of alternatives to the mainstream or traditional education that started to grow in the early years. Education is changing and evolving but laws are not. This supposes a barrier for new pedagogies, as we have seen. Laws need to evolve at the same rhythm that society does in order to adapt to changes and new realities but our system is not flexible and changes occur really slowly. This makes me think that to achieve the recognition of schools in nature is something that can take long time.

In some innovative schools what they are doing in order to be inside the law and be recognized is to design the spaces as the law requires and then, use them for totally other purposes. They also accomplish with an amount of children per age and with the required faculty but then, internally, they organize them totally different, according the pedagogy they follow. In my opinion, when the law is not in your favour it is necessary to find ways in where you can be inside of it but without losing the essence and purposes of your pedagogy.

Related with the difficulties schools had, I asked to the participants coming from a school if during the creation of the school they received any type of help from another association, school or some kind of institutional support. All of them with the exception of BEC, answered no. This means that the schools carried on their project by their own, with any advising or previous references. BEC however, were lucky enough to receive support from Fundación Fèlix de La Fuente (an association that currently doesn't exist) who helped them to carry out the project, to spread it and to do a good justification and some changes of their educative project in order to be homologated by *La Comunidad de Madrid* that showed quite open and flexible when accepting them.

I also identify this issue as an important difficulty that all the schools had when they were created. First of all because they had to start and develop the project alone, without any type of help, advise or consultancy from any other school, association of foundation, added to the fact of not having any other previous reference on this type of education and school in Spain and no literature in spanish. All this made their project grow slower with more difficulties, doubts and fears. As we have seen, BEC received the support of a foundation and, thanks to their common efforts, achieved the homologation without having to adapt their pedagogy and school to all the requisites asked by the BOE law. This fact demonstrates the necessity of having a fastening network and to work cooperatively with other schools, institutions,

associations or foundations to achieve common objectives. However this lack of help and advising that the interviewed schools had (we have to take into account that were the first schools created) is nowadays overcome as the National Association of Schools in Nature in Spain (EDNA) has been created and are offering this personal advice and support to all the schools in nature that would like to receive it. What EDNA is doing is just this, to create a network among all the institutions related with education in nature in order to join their strengths and move together to the achievement of the common goals.

The interviewees also spoke about the added difficulty in terms of legislation, besides de BOE law, that is the non-unification in a national level about the process to follow for opening a Forest School as every Autonomous Community requires different aspects added to the common ones regulated on BOE law. This is totally linked also with the idea developed in the previous paragraph and is something that EDNA is nowadays trying to work on it as well or at least trying to offer an individualized advising according to the place where is situated the school, so according to the specific laws of the territory.

Also, as a direct consequence of all this is that there is not a specific training for people who work on those schools, something that, in anyone's eyes, is essential. EBR, BEC, EDNA offer training in education in nature but each of them a different one, the one they invented, as there are not requirements established in this formation because of the non acceptance and regulation of this type of education. It is clear that this is an important difficulty for them.

Moreover, the interviewees spoke about other difficulties added to the ones already described. Those make reference to families. They agree that there is a lack of information in all aspects. First of all, education in nature is something unknown for the population in Spain so for the majority of families but also teachers and education students. This means that to find families to join these programs was a real challenge for schools, especially in the beginning. Now things have changed as there is more information and visibility of the projects and some of them even they have waiting list. In addition to this, those families have doubts and fears. Fear about the fact of bringing their children to a non authorized center, as they do not know what can imply; and doubts about the future transition to their children to Primary Education in a regular school as they do not have previous references or examples. To make schools in nature succeed it is essential to overcome this gap resulting from the population's ignorance on this topic.

Finally, regarding to families, as those schools are private are not accessible to all families economically speaking so nowadays are a luxury for the families who can. Those schools should not be a luxury. As we saw in the theoretical framework this type of education has many benefits on children development, and should not be something accessible just for some of them. Schools in nature are schools that do not need many resources and, as any other school, should be accessible for everyone. This is exactly what schools want and are fighting for it.

In my opinion we could summarize all these difficulties explained as the important need to have this fastening network where to unify strengths, knowledges and experiences and work together to make schools and education in nature improve and to make population aware of its existence. Is for exactly these reasons that EDNA appeared. It appeared from the necessities that the schools identified: the necessity to be part of a group where to work together and share their experiences and knowledges in order to move on and help other schools to grow up; and the need to have an institution that can represent all of them and help them to do a diffusion work of the pedagogy, and also some concrete school projects, among the population but specially families, other schools and universities, with the intention and final aim to spread their school model and pedagogy and make it a reality in Spain.

Primary Education in Nature

Since now, we have been seeing all the difficulties that I extracted from the study done that a kindergarten school in nature has to face but, what happens is you want to create a Primary Education school in nature? When I visited EBR they explained me that they wanted to open next year (school year 2019/2020) the school for Primary Education. Besides of all the difficulties described previously they have to face even more important ones.

First of all we have to think that the school attendance is not obligatory in Spain until age 6. We have seen that schools in nature are not recognized as schools, however as before 6 kids doesn't have to attend school they can stay whatever their parents want. Things change from age 6 on. Schools attendance means that every kid has to do the Primary Education stage compulsory in a educative center. So, how can a Primary Education Forest School exist if kids can not attend it as is not recognized as a school?

They are creating the "school" as another educative project of their Association. They can not consider themselves as formal education (school) but as non formal education (leisure center). Families who will bring their children to this "school" will be considered parents who are doing homeschooling, something that stills not being regulated in Spain but at least accepted, that bring their children to a leisure center during some hours a day. Families have to be aware of the risk that this implies and that is why the "school" inform them that if someone puts a denunce, the social services will come and make a revision of the state of their children to ensure that they are receiving good cares and good education and that they live in good conditions. In the worst case, the judge can decide to make children attend to a conventional school.

All these, of course, implies a huge risk for families and also for the school as they are not acting inside the law and they can be denounced. However, families that will bring their children there are really conscious of it and they do not care as they totally believe in that kind of education and think that will be the best for their children.

In this case we see that the law is not also in their favour however, they are searching ways to make their dream a reality even if it cannot be exactly as they would like it to be. Is again the fact of dodging the law meanwhile this is not changed and adapted to their reality and needs. It seems that because of this non-flexibility of the system or slow process to change the legislation, any alternative or innovative educative project has to start like this, by renegeing the rules or trying to find other ways inside the law to be able to do it. EBR spent many time searching for ways to be able to open the school and this is the only one they found. They know about the risk that they as an association are taking but they prefer to take those risks and be able to do it and in the same way open a path for other future primary education schools in nature, than not to do it. With this, I realized that the first step to get recognized is by start to doing it and, with it, prove that is a project that works as well as any other. For that reason I think that the creation of this first primary education school is something really positive and necessary to the community of schools in nature in Spain.

Families also play an important role in this situation. Implementing the project wouldn't have been possible without the families trust and commitment on it. Families were the ones who wanted the association to open a school for the primary education stage for their children and for that reason they worked together with the association to do it. Families get involved as well in all the process of the creation of the school and they will continue doing it when the project will start this september. We see so, that those projects come out to fulfill the needs of the families and is thanks to them that people in charge finally decides to take the risks and do it. Also here, in this situation, we can see reflected the necessity of working together to achieve common objectives.

Results from the second objective: Identify the specific needs that actual schools have in Spain in order to understand their situation and be able to think of solutions.

Concerning about the second objective, I asked to the participants which specific need they had. The first of all and the more important one was to have the nature closer with diversity of exterior surroundings. Linked with this, they need a refuge, a indoor and hot space in conditions with a fast and safe access to the outdoors so they need to own or to be allowed by the town or city council to stay in a cabin in the woods. This imply a complicated logistics: to take measures of security, hygiene, clothing and diet in the mountain, have a prevention of working risks and own or have spaces for playing; something that differ with conventional schools.

However all this list of needs, the only essential thing for a school in nature is to have nature closer and this is an easy aspect to achieve. From my point of view, these schools need a less amount of resources than any other conventional school, their short list of needs is totally different but easier to be achieved. They does not depend on many resources or didactic materials as everything is found in the nature so it should not be difficult for them to be created.

Also, very related with the first objective, some of the fundamental resources that those schools should have but they have not is a regulation, besides the acceptance of the government, they need regulation in terms of methodology, specific training for teachers or educators, common established rules, and so on. They need the law to be actualized in order that can consider this other way of working and regulate it by establishing rules and requirements. Katia Hueso (S) in the interview said: "Nowadays those schools have the necessity of construction of a system of quality criteria and formal training, oficial and adapted to the Iberican reality for the specialists and teachers".

EDNA also identifies this as an important need and that is why they decided to work on it. Bibiana, from EDNA, explained in the interviews that they are currently designing some rules that they call "Criterios de calidad". This is a guide that describes the specific rules of quality that they consider that a school in nature should have and accomplish in order to be created as so. In other words, are the minimum requisites that they think those schools should accomplish. In those rules we would find things like: unification of nomenclature and description of concepts, the specific formation needed in order to work in a school in nature, the maximum ratios, the safety measures needed, etc.

One of their main objectives is that, once finished establishing those rules ("Criterios de calidad") in which everybody linked with education in nature can participate, can be accepted or rewrited for the government as a way of recognition of their work so this type of education and its schools.

In my opinion EDNA is the place where to overcome all the needs and difficulties that those schools are facing nowadays. As it has been said, the main objective of EDNA is to achieve the recognition and the regulation of schools in nature and they center all their efforts on it. As I have seen, I could conclude that they have two ways to do so: In first place, by helping other projects to come out and make diffusion of those as a way to spread the pedagogy and make this community bigger and stronger. In second place, by unifying strengths, own rules and criterias in order to create common bases in which schools can develop themselves with the final idea or aim to bring them to the government and achieve the acceptance of those by the education department in a way that can become official.

In all this scarcity of regulation, we have to add the economical need that all of them have in each part of the process of the project. Their main nightmare is to have enough money to

still carrying out their projects, however, they think that by being recognized and by receiving some money from the public system this problem would not be as important as it is nowadays. So again, recognition is needed to overcome their problems coming from the economical part.

This can be summarized that schools in nature need to be listened by the government and that the government should change things to make their requests and their education possible to exist in Spain and being attainable for all families by making it public.

All the results obtained from the different participants were all very similar, all of them agreed in the same questions and gave similar answers, putting the emphasis to the same topics, there wasn't many difference between them. This makes me think that all schools of education in nature share the same difficulties, needs and challenges.

The only participant who gave quite different answers to the set out questions compared to the others was Silvia Corchero from Bosquescuera Cerceda as it has been shown in the results. This is because BEC achieved the homologation of the project from La Comunidad de Madrid, something that any of the other ones have. With all this, they did not feel so left apart as the others did, they did not miss any type of resource during the construction of the project and they felt good comprehended by the administration of La Comunidad de Madrid. However, Silvia said that took many efforts and long time to make it possible and that if they succeed was because the enthusiasm of the leader because any other would have given up before: "People like him, with this impetus and energy of believing in something and fighting for it, make dreams come true, I would have given up without him". That is why she agrees with the other participants that there is a lot of work to do until schools in nature can be seen as something normal, another option for families, and as something positive that has not the necessity to accomplish with the established criterias in education nowadays. In conclusion, that they can establish themselves easily in Spain.

Is necessary to highlight the emphasis that participants made to the fact of working together, help each other by sharing their experiences, their knowledges, efforts and resources. They were really conscious that if they want to achieve the recognition of education in nature all schools of Spain should unify strengths and go together for it. B. Escolar said in the interview: "Where there is a will there is a way. If we are all united and we can meet each other and reflect, exchange ideas, ways of doing... this is what allows us to keep going on. As much as we will be, strongers we will become." Also Bibiana from EDNA put a lot of emphasis in this idea: "Separately we are weak and fragile. We need to unite strengths, that's why EDNA exists."

Is for that reason that they are doing many diffusion of the projects, they are trying to spread the pedagogy by offering free meetings or conferences in universities or in conventional schools. A good new is that BEC has created the first Universitarian Superior Program in Outdoor Education in La Salle University of Donosti. This seems to be a big step into the normalization and training of teachers in this pedagogy. Is just now, after 8 years form the opening of the first Forest School in Spain that important things like training in Outdoor education start to come out, a fact that gives hope to all people involved in this world.

Related also with this teamwork, participants also spoke about the great initiative and motivation that the creators of each project had even though all of them knew the big difficulties that implies to start and maintain a project like that. Personally, I really admire how they were conscious about it but did not care of it as they really believed and still believe in the project and they knew that if they wanted to have, offer and enjoy of the education in nature they were the ones who had to start it as the administration would not do it ever. Blanch in the interviews proposed his solution: "People must start to work and create

projects, as we did, because if we wait that the Administration to put solutions on everything we will never achieve anything. If you have a dream go for it and try to make it a reality”.

In synthesis, after seeing the results given by the participants of this study we can see that are quite similar as the challenges that “Directorio de Escuelas Bosque Innatura” spoke about that have been shown in the theoretical framework, however I would highlight and summarize the extracted results, so the actual needs and challenges of schools in nature, in the following ones: (See table 6)

Need of:	
Recognition and authorization	Of their work. So recognition and authorization of Outdoor Education and Schools in Nature. By only achieving this point all the other needs would be easily overcome.
Evolution and flexibility of the system and regulation of their pedagogy	Adaptation of the laws to the new educational realities and needs. So: <hr/> <p style="text-align: center;">Introduction of a system with quality criteria about schools in nature in order to regulate them</p> <hr/> <p style="text-align: center;">Extension of the outdoor education curriculum in mainstream schools</p>
Economical Resources	With the authorization they would be able to ask for subsidies, grants, scholarships for families and other governmental economical help.
Becoming also public	Being offered also as a public option in order to be accessible to all families and guarantee quality and fair salaries for teachers.
Specific Training	Specific, formal, official and adapted training for educators in nature in Spain (as a course, bachelor’s degree or superior grade)
Extension of the pedagogy	To other educational levels (primary, secondary..)

Table 6. Results of the needs of Schools in Nature.

If we compare how it was their situation five years ago with nowadays we see that things have improved considerably: new associations have born in order to help projects in nature, many schools in nature are raising every year in all the spanish territory, the first primary education school is going to be opened this year and an Universitarian Superior Program in Outdoor Education has been created. However still a long way to go and many work to do in order to achieve all the needs explained before. Projects are hopeful on this and that is why they continue their work despite the difficulties, economic scarcity or risk that are facing. With this union that participants were speaking, about working together and helping each other, with the creation of the internal regulation and unification of terms, concepts, criteria and rules of the projects in nature and with the diffusion and formation in universities about this

model, education in nature will be a step closer to the authorization of the pedagogy and its schools.

6. CONCLUSIONS

In this research we have seen that the main needs and difficulties that schools in nature have nowadays in Spain are due to the fact of being non-recognized schools in Spain, as well as their pedagogy (Outdoor Education). The lack of this recognition and, in consequence, its authorization, make them impossible to exist or to do it with different conditions than other conventional schools which leads to a big list of difficulties. Those difficulties can be seen also as necessities or challenges to face. Those needs are in first place economical: they have big troubles to maintain the projects and to pay quality salaries to teachers without increasing the fees for families. Secondly, they need a regulation, to establish common criterias and minimum requisites for schools in nature, so laws that regulate their work. Related with this, they also need a specific, formal and official training about outdoor education for teachers in schools in nature. Finally, schools in nature are also asking for the recognition in order to have the chance to be offered also as a public option and to be extended to other educational levels as primary and secondary education.

Schools in nature of Spain are just in the beginning of a long process to the recognition, authorization, regulation and normalization of their pedagogy. They are working hard together on all this convinced that in some years they will achieve their main goals, as many other countries did in a recent past, and become a reality inside the educational system in Spain.

Limitations and prospective:

The limitations for doing this project were mainly the lack of information in this topic in Catalonia or Spain as is something that has just started to grow in early years. There was not any information or studies regarding on the difficulties or challenges that those schools have and in the same way any information about the needs of those schools for opening or about the requirements. This is because there are not previous references so, as schools identified this as a difficulty I also identify it for my research. However, this lack of information in this aspect is what made me move to focus my attention and research on it. I took this limitation as an opportunity to develop this topic.

Also, in a first moment, my idea was to do it about outdoor education and Forest Schools in Catalonia, not Spain. However, for the same reasons explained before and adding the fact that either the schools in Catalonia and the rest of the Spanish region are in the same situation because of a law coming from the central state I decided to analyze and speak with schools also from other regions of Spain. Moreover, I saw that if I wanted to do a significative research I should speak with the ones who opened first in Spain that where schools from Madrid and also with the main association of Education in Nature in Spain that has a good experience and knows good the actual challenges for schools in the different regions of the main state.

This topic stills being a non-explored topic, there is a lot to study to do in Spain and a many work to do in order that those schools can be seen as another good option available of everyone. I think that this research is just the beginning of many more. In a future, taking this research as an introduction to the topic that made me learn a lot about it and specially understand the situation and the challenges that schools in nature have to face, and also after having studied the requirements need it for opening, I would like to continue with it next year and inside the new TFG that I will do for the degree in Pre-School Education. I would like to design a project for the creation of a Kindergarten Forest School in Catalonia.

7. BIBLIOGRAPHY

Abad, S; Albareda, M; Àliva, A; Alòs, A; Artigas, A; Barba... Vázquez, N. (2012) *Benvinguts!* Retrieved from L'Escola del Bosc: <http://lescoladelbosc.blogspot.com/>

Adkins, C; Simmons, B. (2002) *Outdoor, Experiential, and Environmental Education: Converging or Diverging Approaches*. Retrieved from ERIC Clearinghouse on Rural Education and Small Schools Charleston WV: <https://files.eric.ed.gov/fulltext/ED467713.pdf>

Arrels Escola Bosc. Retrieved from:
<https://arrelsescolabosc.files.wordpress.com/2019/01/triptic-arrels.pdf>

Asociación EDNA de Educación en la Naturaleza. *Estatutos Asociación Nacional EDNA. Educación en la Naturaleza*. Retrieved from:
https://asociacionedna.files.wordpress.com/2015/08/estatutos-edna_web.pdf

Asociación EDNA de Educación en la Naturaleza. Retrieved from:
<https://asociacionedna.wordpress.com/>

Aucouturier, B; Cols, C; Fernández, P; Malaguzzi, L; Nicholson S; Pikler, M. *De patío a jardín. Espacio con tercer maestro*. Retrieved from: <http://depatioajardin.com/>

Aznarez-Aloy, N. *Las Escuelas Bosque y la (Re)Conexión con la Naturaleza* (unknown date). Retrieved from Bosquescuelas.com:
<http://www.bosquescuelas.com/que-es-la-escuela-bosque/>

Ballantyne, R ; Packer, J. (1996) *Teaching and Learning in Environmental Education: Developing Environmental Conceptions*. Retrieved from The Journal of Environmental Education: <https://www.tandfonline.com/doi/abs/10.1080/00958964.1996.9941455>

Ballantyne, R; Packer, J. (online: Mars 2010) *Nature-based. Excursions: School Students' Perceptions of Learning in Natural Environment*. Retrieved from Journal of International Research in Geographical and Environmental Education:
<https://www.tandfonline.com/doi/abs/10.1080/10382040208667488>

Bernal Martínez, J.M (2012). *De las escuelas al aire libre a las aulas de la naturaleza*. . Retrieved from Revista Internacional de Ciencias Sociales:
<https://digitum.um.es/jspui/bitstream/10201/23011/1/10%20De%20las%20escuelas%20del%20aire%20libre%20a%20las%20aulas%20de%20la%20naturaleza.pdf>

Bihotz Inguru. Retrieved from: <http://www.bihotzinguru.org/es/>

Boggio, L (2016). *Presentando las Escuelas Bosque* . Retrieved from Familias en Ruta:
<https://familiasenruta.com/fnr-crianza/educacion/escuelas-bosque-espana/>

Bosquescuela. Retrieved from: <https://bosquescuela.com>

Carbonell, J (2014). *Escola del Bosc: la primera escola pública catalana i renovadora compleix 100 anys*. Retrieved from El diari de l'educació:
<http://diarieducacio.cat/escola-del-bosc-la-primerescola-publica-catalana-i-renovadora-compleix-100-anys/>

Carreras Mèlich, I (2017). *L'educació a l'aire lliure a l'etapa 0-6 durant l'horari escolar i quin afecte emocional i motriu té. Estudi de camp de com ho treballen escoles noruegues i catalanes*. Retrieved from:
<https://drive.google.com/file/d/0B3Sk0869W1g5cGdEX3ZBcUdGbXc/view>

Fernández Herrería, A; Conde Caveda, J.L (2010). *La ecopedagogía en la formación inicial de maestros*. Universidad de Granada. Retrieved from ABC:
https://idus.us.es/xmlui/bitstream/handle/11441/60504/R71_4.pdf?sequence=1&isAllowed=y

Clara. *Tierra en las manos*. Retrieved from: <http://www.tierraenlasmanos.com/>

Cols, C; Fernández, P. *El nou safareig. L'espai exterior de l'escola com a espai educatiu*. Retrieved from: <https://elnousafareig.org/>

Fominaya, C (2015). *Inauguran en España la primera bosque escuela alemana*. Retrieved from ABC:
<https://www.abc.es/familia-educacion/20150116/abci-escuelas-aire-libre-201402141136.html>

Ford, P (1986). *Outdoor Education: Definition and Philosophy*. Retrieved from ERIC Clearinghouse on Rural Education and Small Schools Charleston WV; ERIC Digests in Full Text: <https://files.eric.ed.gov/fulltext/ED267941.pdf>

Forest schools. Retrieved from:
<https://www.forestschoools.com/pages/what-is-forest-school-an-introduction>

Forest School Association (2011). Retrieved from:
<https://www.forestschoollassociation.org/full-principles-and-criteria-for-good-practice/>

Freire, H (2011). *Educar en Verde*. Barcelona: Editorial Graó de IRIF.

Häfner, P (2012). *Natur- und Waldkindergärten in Deutschland - eine Alternative zum Regelkindergarten in der vorschulischen Erziehung*. University of Heidelberg. [pdf]
Retrieved from: <https://core.ac.uk/download/pdf/32578703.pdf>

Houghton.P, Worroll.J (2016). *Play the forest school way*. London: Watkins Media Limited

Institute for Outdoor Learning. *Forest School Association*. Retrieved from:
<https://www.forestschoollassociation.org/full-principles-and-criteria-for-good-practice/>

Larrañeta, A (2015). *Escuelas en el bosque: crecer aprendiendo entre pinos y rocas*. Retrieved from 20minutos.es:
<https://www.20minutos.es/noticia/2432335/0/escuelas-bosque/saltamontes/aprender-natural-eza/#xtor=AD-15&xts=467263>

Garcia, A. Ludus. Retrieved from: <https://ludus.org.es>

Mayorga Martín, M (2018). *Escuelas en el Mundo*. Retrieved from Escuela InNatura:
<http://escuelainnatura.com/wp-content/uploads/2018/11/Escuelas-en-el-mundo2018.pdf>

Matas, R (2018). *Las escuelas-bosque se abren paso como alternativa a la educación infantil reglada*. Retrieved from La Vanguardia:

<https://www.lavanguardia.com/local/lleida/20180924/451933491863/escuela-bosque-alternativa-educacion-infantil-naturaleza.html>

España. Real Decreto 132/2010, de 12 de febrero, de Educación. *Boletín Oficial del Estado* núm. 62, de 12 de marzo de 2010. Retrieved from:

https://www.boe.es/boe_catalan/dias/2010/03/12/pdfs/BOE-A-2010-4132-C.pdf

Olivé Montrabeta, N (2015). *L'Anoia, pionera del projecte pedagògic de l'Escola del Bosc a tot l'Estat*. Retrieved from AnioaDiari:

<http://anoiadiari.cat/societat/anoia-pionera-del-projecte-pedagogic-escola-del-bosc-espanya/>

Olivé Montrabeta, N (2015). *S'inaugura a Rubió la primera Escola del Bosc de Catalunya*. Retrieved from AnioaDiari:

<http://anoiadiari.cat/societat/inaugura-rubio-primera-escola-del-bosc-catalunya/>

Parisi, A (2018). *Educació a l'aire lliure*. Retrieved from Xarxanet:

<http://xarxanet.org/ambiental/noticies/educacio-laire-lliure>

Peris Reig, L. (2017) *Outdoor Education: Una forma de aprendizaje significativo*. Sevilla: Punto Rojo Libros.

Plisti-Plasta. <https://plistiplastanaturan.wordpress.com/beneficios-de-la-naturaleza/>

Priest, S (2010). *Redefining Outdoor Education: A Matter of Many Relationships*. Retrieved from The Journal of Environmental Education: <https://files.eric.ed.gov/fulltext/ED267941.pdf>

Redacció Infoanoia (2014). *L'Escola Gabriel Castellà d'Igualada acollirà una innovadora 'Escola Bosc'*. Retrieved from Infoanoia.cat:

<http://infoanoia.cat/lescola-gabriel-castella-digualada-acollira-una-innovadora-escola-bosc/>

Ripa, J (2018). *Un día en la escuela del bosque*. Retrieved from El País: https://elpais.com/economia/2018/02/07/actualidad/1517996397_579992.html

Ripa, J. (2017) *¿Por qué los niños necesitan aprender en la naturaleza?* Retrieved from El País: https://elpais.com/economia/2017/03/21/actualidad/1490090070_278719.html

Rowe, S; Humphries, S (2012). *The coombes approach: Learning through an experiential and outdoor curriculum*. India: Continuum Books

Ruiz Lavilla, A (2017). *La estética ambiental en el bienestar de la comunidad escolar. Escuelas Bosque como referente*. Universidad de Valladolid. Retrieved from: <https://uvadoc.uva.es/bitstream/10324/29556/1/TFG-O-1226.pdf>

McLeod, S. (2018) *Maslow's Hierarchy of Needs*. Retrieved from Simply Psychology.: <https://www.simplypsychology.org/maslow.html>

The Coombes CE Primary School. Retrieved from: <https://www.thecoombes.com/>

Tiching (2015). *¡Conoce las bosque escuelas!*. Retrieved from: <http://blog.tiching.com/conoce-las-bosque-escuelas/>

Tiching (2014). *Heike Freire: "En educación, el contacto con la naturaleza es vital"* .
Retrieved from:
<http://blog.tiching.com/heike-freire-en-educacion-el-contacto-con-la-naturaleza-es-vital/>

WILSON, E.O (1984). *Biophilia*, MA, Harvard University Press.