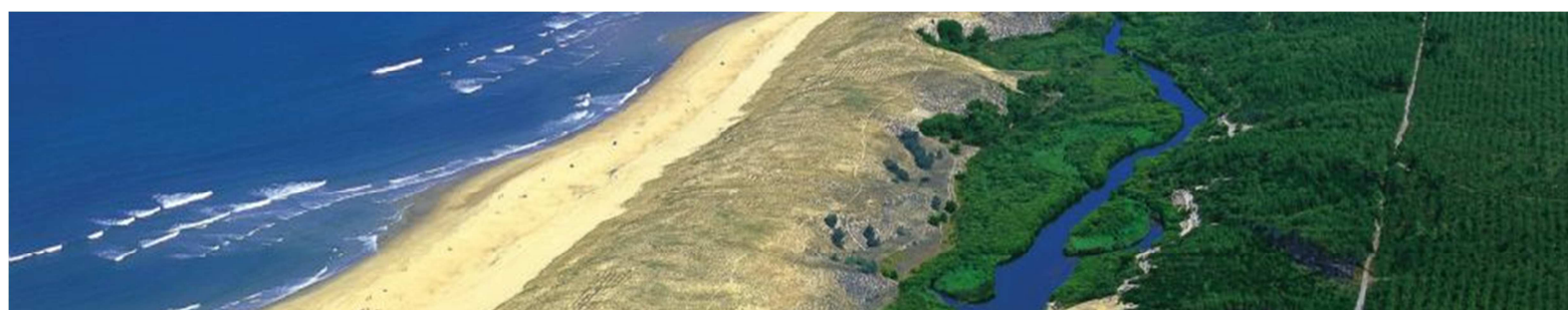


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## **Setting up an ESD center in the village of Leon (France)**

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## INTRODUCTION

In this essay we are going to present an idea to establish a Centre for Education for Sustainable Development (ESD centre) of National nature reserve Courant d'Huchet situated in France to improve education on SD, since it is already introduced in the school curriculum in France (A Resource Book for ESD Educators, 2013).

Education for Sustainable Development (ESD) processes emphasize the need for stimulating a holistic, integrated and interdisciplinary approach to developing the knowledge and skills needed for a sustainable future as well as changes in values, behaviour, and lifestyles.

According to UNESCO, ESD is about learning to:

- respect, value and preserve the achievements of the past;
- appreciate the wonders and the peoples of the Earth;
- live in a world where all people have sufficient food for a healthy and productive life;
- assess, care for and restore the state of our Planet;
- create and enjoy a better, safer, more just world;
- be caring citizens who exercise their rights and responsibilities locally, nationally and globally.

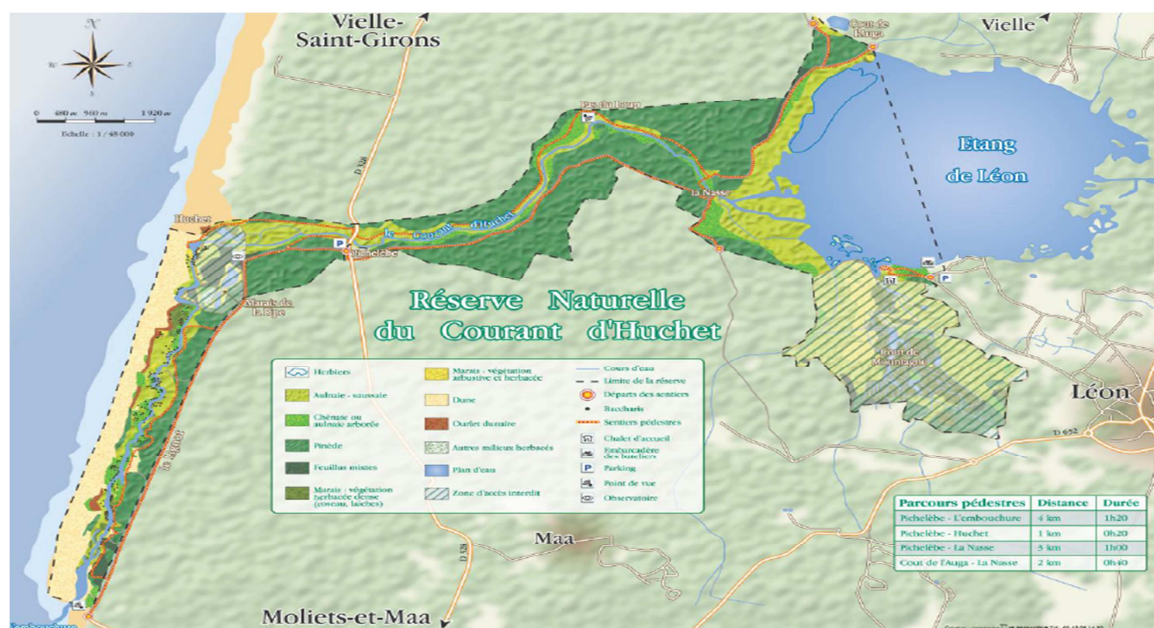
Therefore, the ESD centre should promote the transition to sustainable ways of living and a global society, including respect and care for the community of life, ecological integrity, human rights, respect for diversity, economic justice, democracy and a culture of peace, with a special focus on educational needs.

Necessary prerequisite is the provision of the place, where participants should be able to experience nature, culture and other aspects of human environment in order to stimulate interdisciplinary and holistic views. Also experiencing the area with certain problem may trigger critical thinking and problem solving ideas.

While we were trying to find the best localization for the ESD centre, we were looking for a place close to the protected area to provide a view on a great value and fragility of nature and its biodiversity, but also with a cultural heritage to emphasize a need for coexistence with a nature.

During the process we chose the area of the natural reserve Current d'Huchet, in France, Aquitaine region, department of Landes. It's located between the lake of Leon and the coast of Atlantic ocean, which constitute a rich area on history, traditions and habitats for flora and fauna. The natural reserve is a wetland resulting from the blocking and from the accumulation of continental waters which cause the dune corridor. The current is 9

kilometres long. Actually, the area is a reduced space where there are fresh and brackish water, dry or flooded grounds and therefore, which involve a high number of animal and



plant species. In this area, we can distinguish six main ecological units: Leon's lake, a fast water current, the forest (aulnaie - saussaie - oak grove), swamps and peat bogs, forest of maritime pines, the littoral dune.

The value of this area was noticed in 1934, when the current of Huchet and its banks were classified among the natural monuments and the sites of artistic, historic, scientific, legendary or picturesque character. In 1977, a part of the current has been pronounced "hunting and wildlife reserve". Finally, in 1982, the current of Huchet became a natural reserve thanks to the goodwill to preserve a unique site of a botanical wealth by limiting the human activities as well as an excess of tourist attraction on the current. The surface of the protected area is 618 hectares, and includes three communes: Léon, Moliets-et-maà and

Vielles-saint-Girons. 50 % of the area belongs to the local authorities, 27 % to the State administered property and 23 % to private owners. The area is important for tourism; so many activities are developed into or around the reserve.

The management body of the reserve is "Association of communes of Development and Management of the natural reserve of the current of Huchet", assisted by a consultative committee (three municipalities, owners, users, the General Council of Landes, associations of nature conservation and scientific personalities).

As mentioned before, area is rich in biodiversity. Concerning the animal species, it is one of the major sites for the European mink, also represent habitat for European otters, amphibious voles and various bats. Reserve presents a great ornithological value, in total 258 species of birds have been recorded. A Frog population is abnormally low, probably because of predators such as American crayfish, black bass, etc. In general, the entomological diversity is rich for this kind of environment. A total of 270 species were counted, with a clear dominance of beetles. About flora, 22 species present a major patrimonial interest, 10 species are protected nationally and 12 regionally.

We were looking for a location to be close to the protected area and we found it in the city centre of Léon. Proposed location is municipal, traditional architecture house, used before as a library and at the moment abandoned. This location could be ideal for establishing an ESD centre due to the fact that on the park territory, on a relatively small area you may find different types of ecosystems, settlements, and different sectors of the local economy. The features mentioned above may help future Centre educators to figure a concept of interconnectivity between different areas which is one of the basics to understand sustainable development ideas. Also such an establishment may represent improvement for local community, may attract a larger number of visitors due to the fact that it may represent a way of advertisement of the area.

Goal of the ESD centre is to provide a non-formal education including a field experience in the area of National nature reserve Courant d'Huchet for citizens from the Aquitaine region and beyond. In this work, we will focus on developing a one day program for elementary school kids, using all available resources that the area can provide to improve and enhance their understanding of sustainable development concept, including experiencing the area with its peculiarities.

Taking into consideration the steps of planning an ESD centre:

- Prepare a basic project and present it to local authorities and Courant d'Huchet management body
- In collaboration with local authorities and Courant d'Huchet management body find a location of the centre

- Elaborate a project of an ESD centre of Leon (detailed)

- Compete for funding at Ministry of Ecology, Sustainable Development and Energy; Ministry of National Education, Youth, and Sport and The Regional Council of Aquitaine sub-department for Research, Education and Technology Transfer

our objectives are to investigate the possibilities, evaluate the results and recommend actions, concerning the establishment and the function of the ESD center.

## METHODOLOGY

Our cooperative learning model was the group development model **Forming- Storming – Norming – Performing** (Tuchman, 1965). During the Forming phase we tried to select the most appropriate theme for our group's member synthesis. We agreed on preparing a short essay for setting up an ESD center for a protected area because we believed that every member of the group could be really engaged in and contribute to this essay. At this point we were mostly focused on arranging our meetings' plans. Storming was a phase that we really confronted each other and each other's ideas also. Although sometimes this became unpleasant, the great thing about it is that we shared the same perspectives. That's why it was easy for us to design the main plan of our work. Our team supervisor was as less as possible directive in his guidance for expected group behavior. We practiced the **SWOT Analysis** (Strengths, Weaknesses, Opportunities, Threats). We used the **technique of brainstorming** and we consulted the concept map that reflects the design of an ESD intervention in a MAB BR or a DA (A Resource Book for ESD Educators, 2013). Furthermore we made the first attempt to distribute our teamwork. Considering the strict timetable of our session's program, we managed to reach to some point the Norming phase mainly by trying to adjust our behavior to each other. We didn't manage to get to the **Performing** phase.

Our most important tools were: **literature review** (of our resource book, pedagogical articles and books), **webpage review** of official site of the protected area and the social website trip advisor, **observation** of the geophysical characteristics, hydrographic network as well as on the location of the touristic, industrial and agricultural facilities of the surrounding area where the National Nature Reserve is situated, **interviews** that took place during our accommodation in the ESD center facilities, with Mr Vassilis Psallidas, consultant for the EE and the ESD, Mr George Kottis, educator of the ESD center of Amfissa and Alice Vidal, citizen of Leon and biochemist specializing in ecotoxicology. We wanted to be informed about the structure of our essay, the objectives, guiding principles, pedagogical approaches and methodology that can be adopted by an ESD center and the environmental impact of the touristic, industrial and agricultural activities in the vicinity of Leon's lake.



## RESULTS

Given time constraints, we decided to focus on locally relevant objectives of an ESD center.. One member of our group, Alice Vidal, lives in the village of Leon so we already had enough reliable information and sincere motivation. These objectives are:

- To highlight the special characteristics of the region
- To show the local problems and how to address them
- To present the local, natural and cultural wealth, aiming to raise awareness of students and citizens as they will move in the direction of protection and rational management.
- To provide learners/visitors with pleasant experiences, which increase their belief in their potential to bring a change towards the region's sustainable development and their willingness to participate in similar projects
- To stimulate and develop the positive attitudes towards the foundation and sustainable management of the protected area

The prerequisites concerning the establishment as well as the function and the educators of an ESD center were determined taking the analysis and evaluation of the objectives above into account and they are:

In order to make our recommendations, our main lodestar was the observation of the



geophysical characteristics, hydrographic network as well as on the location of the touristic, industrial and agricultural facilities of the surrounding area where the National Nature

Reserve is situated. Effluent and waste from touristic, industrial and agricultural activities in the vicinity of the lake flow into the lake and have no escape route because of the landscape structure. The flow from the lake to the Atlantic is not consistent and depends on the ocean weather and currents. There is also a possibility that waste comes in from the ocean onto the shore.

Citizen's (Alice Vidal) statements as well as the comments of Trip Advisor's (social website) comments do verify the presence of enormous amount of waste onto the shore.

## **RECOMMENDATIONS**

Concerning ESD center's objectives we recommend:

- Field visits to the National Nature Reserve exposing the vast biodiversity of species as there are six main ecological units in the Reserve.
- Ecological farming programs designed for smallholder farmers
- Seminars for the touristic business about sustainable management
- Action oriented interventions throughout the year focusing on waste containment and disposal
- Proposals about the waste processing for the local community and industry
- Educational materials and learning media such as posters, booklets, brochures, magazines
- Practical action and learner oriented educational methods such as the one that will follow later

Concerning specific prerequisites of the ESD center of Leon, we recommend

- The provision of a place adjacent to the protected area and accessible for handicapped
- Cooperation with scientists, relevant stakeholder bodies and participation of the local community in program implementation
- Partnership with national scientific institutions, municipality authorities and local associations
- Educators widely educated with basic ecological and pedagogical knowledge and special knowledge on ESD

Bearing in mind that Within ESD the role of the educator is very distinct and important for the success of any educational programme we would like to emphasize the educator's specific skills.

In protected areas in particular, the educator must have the skills of a tour guide who, within a relatively short period of time, is required to help visitors to “interpret” the natural environment, to stimulate reflection on complex concepts such as ecosystems functioning, biodiversity protection, sustainable management, while giving information about the areas’ natural and cultural feature. Communication, negotiation and persuasion skills together with effectiveness are very important, in order to gain respect and consent to the behavioral safety rules when needed.

Last but not least an ESD educator needs to have a good knowledge of the functions of a Biosphere Reserve, namely: conservation: landscape, ecosystem services, species, etc; development: economic and human activities, and those who practice them (i.e. organic farming, adapted forest management, ecotourism, handicrafts, traditional and cultural festivals); logistic: the research and monitoring taking place for the area, campaigns, etc. as well as the management plan and the risks that the BR is threatened by.

In addition to having basic ecological and pedagogical knowledge, an ESD educator must also have special knowledge on MAB/BRs and international conventions, special knowledge on cultural heritage, special knowledge and competences for persons with disabilities.

The ESD centre of Leon will promote the planning of educational program, which refers to the activities for learners through games and field visits to embrace the principles of ESD and put them into practice. We found that the best time of the year for the proposed activities will be spring and early summer as well as autumn period. At those time of the year student may observe the change of the nature, awakening period in the spring, early summer with flowering meadows and the rich autumn period when they may enjoy local fruits and the huge pallet of autumn colors in the forest. Also this period is convenient/acceptable to the local community, because it’s not touristic high season.

Previous the visit, in the classroom, student will be given some information about the region, to build an idea of the region, to encourage curiosity, to prepare. Student may also require some practical information’s because for the trip they need walking shoes etc. but also they have to learn how to behave in the nature, particularly in a protected area.

The planed education is one day trip and comprises from different activities in various locations in the Natural reserve of the Courant d’Huchet, (ocean’s coast, forest and lake), which enables students to link the scientific knowledge brought from the school to the different natural environments.

Proposed one day program is planned to start at 9 am with students arrival to the center. At the centre they will have a brief introduction about the Natural reserve of the Courant d’Huchet. Educators will prepare them for the field visits in order to enhance their ability of perception and understanding the interactions between the natural, cultural, and economic environment. Than educators will start a preparation for the first educational stop/spot, at the beach. The first step is to locate the coat area on the map and discussion about human impact on the area. They will show them pictures about different kind of potential wastes. Also, they will discuss about the future activities.



At 10, a bus will pick up the group up to go to the beach, to the part of the coast under the protection of the natural reserve. The first proposed activity is: cleaning the sand, collecting different type of materials (wood, plastic, styrofoam, fabric waste) that can be found on the coast. Kids will be divided into five groups and each group will have a different kind of waste to collect (wood, plastic containers, plastic bags, fabric, styrofoam & metal...). Every group will have a worksheet; about beach pollution - connected with their task. The duration of the beach spot activity is one hour.

The aim of this activity is to raise the awareness of an amount and diversity of waste that can be found in the nature. To think about the origin of the waste, what can be done to avoid the pollution of the nature with solid waste, so they can realize what the consequences of uncontrolled waste disposal are. Also during the discussion on the coast, educator will induce kids to think about possible threats of the waste for the environment, for example birds, fishes.

Before the activity, educators will examine the possibilities of the area. The planned area is managed in order to reassure children won't get hurt while collecting objects. It's essential because some dangerous rubbish may be found (syringe, glass, scissors...) After the activity, kids will be back to the center, by bus, approximately 11:15. There is planned to concede with a discussion appraising the findings of the field visit.

Also the first evaluation is planned, the one about the changes of student's behavior about pollution, i.e. what they have learned within field visit. To evaluate students we use a web chart on "ocean's pollution".

At 12 it will be lunch time, on the terrace of the centre. A lunch menu will be composed from some local products, to initiate them to customs. The menu is composed of starters (bread with different pâté), main dish (duck accompanied of french fries) and local desert which is a traditional cake (Pastis landais).

After lunch, a visit in the old traditional centre of Leon is planned. It is planned in form of a short walk during which they will be introduced to the local architecture, usage of traditional materials.

At 13:30, some activities in the centre are programmed such as a movie about the history of the natural reserve, a map of this area to place them, and pictures about threatened species on the natural reserve.

Before the departure, to each group will be given cards (with pictures of the species that can be found in the forest) for the forest activity. At 15, kids will departure from the centre to the forest adventure, where a botanist/biologists will join the group to enrich the experience. The Forest activity consists of a circular short walk through the forest with one stop point, and it is going to last an hour. During the walk through the forest, kids will be encouraged to seek for species on their cards, which some of them are endangered.

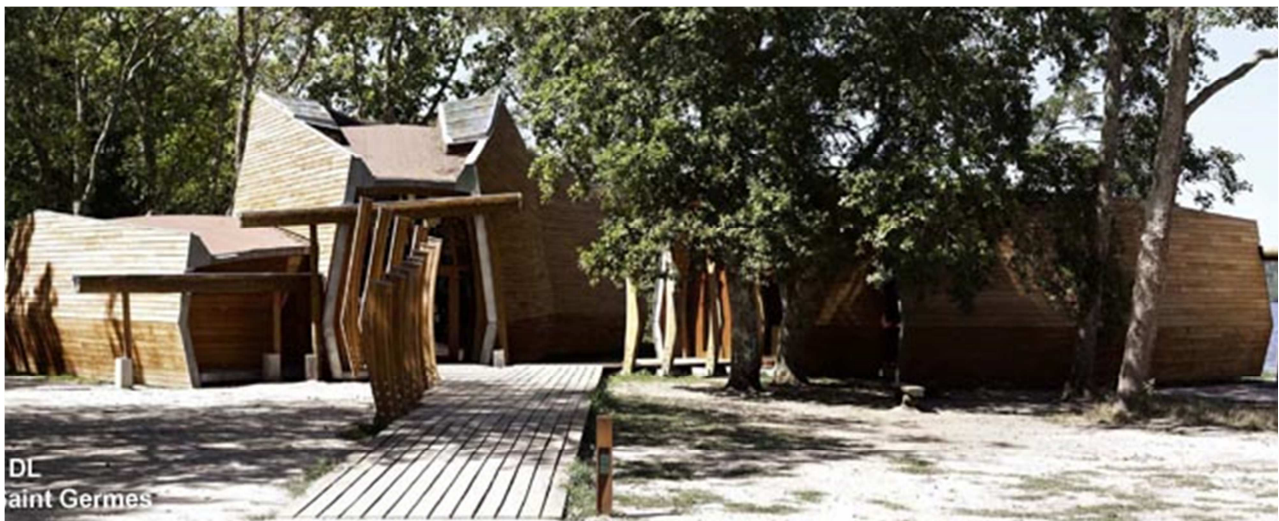
A special activity is planned to show to the kids an old, almost forgotten job: “gemmae”.



This activity will be presented by a volunteer or a centre employ, who will show them how the resin was collected (special tools and technique) and tell them the story about various usages of resin and value for the local economy in the past. Aim of this activity is that kids realize the importance of the richness of the environment, and the dependence of the man on the environment.

After the forest walk, at 16, they will discover the small Museum of the natural reserve of the Courant d'Huchet. It's a recent greenhouse in wood showing some explanations about the old traditions and also the biodiversity of this natural reserve. They will be spoken about the greenhouse concept, afterwards they will be asked to give some ideas of improvement of their school to become more environmental friendly building. The aim of this exercise is that kids realize that even a small change in

their habit or behavior may be beneficial for the environment.



Then at 16:30-17:00, student will be asked to group in their groups .Every pupil will receive life vests, they will be given safety instructions and prepare to embark in “barques”, local small boats. During the trip they will be able to observe the nature from another perspective, and just enjoy the area. Also, the guide will present them specific plants and animals for the area, in an amusing way, trough fables and stories. The “barques” trip will end on the shore where the bus will pick up the class and take them to the center for final activity.





Scheduled time for the return at the centre is 18. The last activity is about to make a class poster, where kids will be able to write their names, impressions, messages, ideas etc. To finish the day, they will have another 5 minute evaluation, completing the worksheet from this morning, to know what they have learned. Also for the class teachers, Center guide will propose a short plan for next day to repeat with kids what they saw, what they learned

A herbarium with plants that they have collected in the forest, illustrating the ecosystem. Also, educators will highlight the major role of the biodiversity explaining some ecological functions in the ecosystem.

### **Literature, Webpage Review**

[Education for Sustainable Development in Biospheres Reserves and other Designated Areas: A Resource Book for Educators in South-Eastern Europe and the Mediterranean](#)", UNESCO 2013

Novak, J., *Learning, creating, and using knowledge: Concept Maps as facilitative tools in schools and corporations*, New Jersey: Lawrence Erlbaum Associates, 1998

Johnson, D. & Johnson, R., *Cooperative Learning Methods: A Meta-Analysis*, Journal of Research in Education, 12(1), 2002

[Réserve Naturelle du Courant d'Huchet](#)

**[ΚΠΕ ΑΜΦΙΣΣΑΣ](#)**

[http://www.tripadvisor.com.gr/Tourism-g1079338-Leon\\_Landes\\_Aquitaine-Vacations.html](http://www.tripadvisor.com.gr/Tourism-g1079338-Leon_Landes_Aquitaine-Vacations.html)