

E-Learning from nature: Picking from nature the inspiration to teach and learn science

Ana Isabel Pereira, Olga Ferreira, Maria Filomena Barreiro, Amílcar Teixeira, Paulo Cortez, Carlos Aguiar Instituto Politécnico de Bragança, Campus de Santa Apolónia, 5301-857

☐ The project:





☐ Portuguese network of schools, teachers and students:

School	Teachers involved	Students involved	
Agrupamento de Escolas Miguel Torga (Bragança)	3 teachers (Biology, Physics/Chemistry and English)	20 (age range: 16-17)	
Agrupamento de Escolas Emídio Garcia (Bragança)	7 teachers (Biology, Physics/Chemistry, Geography and English)	26 (age range: 14)	
Agrupamento de Escolas Abade Baçal (Bragança)	5 teachers (Biology/Geology, Physics/Chemistry, Mathematics, English)	50 (age range: 14-18)	
Agrupamento de Escolas de Mirandela (Mirandela)	5 teachers (Biology/Natural Sciences, Physics/Chemistry, English)	20 (age range: 14-18)	
Agrupamento de Escolas de Macedo de Cavaleiros (Macedo de Cavaleiros)	3 teachers (Biology, Physics/Chemistry and English)	20 (age range: 14-18)	

de:

☐ Brief description of the geographical areas and corresponding Natura 2000 cod			
Geographical area		Brief description	Natura 2000 code
Azibo Reservoir Protected Landscape		Azibo reservoir consists of 3 watercourses, Azibo, Azibeiro and Reguengo, belonging to the river Sabor (tributary of Douro River) basin. Located in the transition region between Terra Fria (Cold Land) plateau and Terra Quente (Hot land), it is inserted between medium altitudes of 500 to 700 meters.	
Douro International Natural Park		The Park covers the border stretch of the Douro river, including its valley and adjacent plateau surfaces, and extends south through the valley of its tributary, the river Agueda. This granitic area is characterized by a microclimate, with low rainfall and mild winter temperatures (hot land).	PTCON0022
Montesinho Natural Park		The Park is a protected area of 74 229 ha, located in the municipalities of Vinhais and Bragança, in the northeast Portugal. This mountainous region, named Terra Fria (Cold Land) is characterized by a succession of rounded elevations and valleys deeply embedded, with altitudes ranging between 438 and 1481 m.	PTCON0002**
Landscapes of Serra da Nogueira		Serra de Nogueira is a small mountain complex reaching 1375 m, part of Natura 2000 site Montesinho/Nogueira it is located in the municipalities of Bragança, Macedo de Cavaleiros and Vinhais, in the northeast Portugal. This area is included in the "Terra Fria" (cold land).	
Cork oak forests of Jerusalém do Romeu		Located in Trás-os-Montes, the Natura 2000 region of Romeu was created to protect two of the most well preserved habitats of Cork oak. This site occupies an area of 4768.59 ha, located between Mirandela and Macedo de Cavaleiros and includes a small areas of olive grove and	

Douro Wine Region vineyards. It has a typical

mediterranean microclimate (hot land).

☐ Students in practice:









Conclusions and future work:

Apart from the work to be done at national level, a fruitful cooperation is expected from the exchange of experiences among the international partners. All the produced materials will be available in an online portal for the community. In a second phase of the project, a guide for science teachers focusing innovative methods to enhance students' motivation to study scientific subjects and improve their basic skills in science will be developed as a result of the cooperative effort between partners.

☐ Acknowledgments:



^{*} Azibo Reservoir Protected Landscape is a protected regional/local area. Part of the region is included in the Natura 2000 region Morais (PTCON0023) **Montesinho and Nogueira are included in the same Natura 2000 region (PTCON0002)