Erasmus + Key Action 2
Strategic Partnership - Schools

E-learning from Nature

Context and objectives

The project intends to respond one of the specific priorities identified by the 2015 Erasmus + Programme for school education, *"to address low achievement in basic skills through more effective teaching methods. In particular, through projects that: foster multidisciplinary and inter-disciplinary approaches; integrate the teaching of basic skills (math, science and literacy); promote problem-based learning; or foster innovative approaches to teaching technology-rich environment with particular focus on mathematics in technology-rich environment".*

The project aims at involving students and teachers in a research experience which promotes the knowledge of the sciences through: a direct contact with the environment they live in, a "problem-based" learning method, the use of new technologies, and a peer-to-peer (from student to student) teaching approach (in order to encourage students to feel motivated in transferring the scientific know-how to their European fellow students).

In particular, the project aims to:
- promote the knowledge of scientific subjects through a practical approach based on the comparison with concrete issues. Thanks to this approach, students will learn the basic skills of different scientific subjects, starting from the collection of relative information on their local territory;
- motivate students in learning scientific issues by providing them with the teaching materials developed and made available by exploiting the communicative potential of new technologies. This approach, together with a strong reference to their local context, will allow them to acquire a basic knowledge in science, overcoming the perception of distance from everyday life which is often associated with scientific knowledge;
- enhance a peer-to-peer (from student to student) teaching and learning approach, engaging students in the production of lessons which can be exploited by their "colleagues" in other countries through the support of new technologies. Students become teachers and teach scientific issues to other European students;
- develop multimedia learning processes with the objective to guide students in learning science through an interactive and proactive approach.

Results and activities

Activity / Result 1 – Research on Science and Territory

The project partners will coordinate the activities of 5 secondary schools (it is necessary to define the age of the students. Given the actions to be implemented, students aged 16-18 are recommended).
Each school will participate with one or more classes and with an interdisciplinary team composed by teachers of different subjects (science and English).
Each school will identify an area of natural interest as near as possible (where possible, it will be identified among the sites of Community Interest).
Students, properly guided by teachers and experts (provided by the project partners), will be engaged in an attentive analysis of the chosen area. During this activity, students will collect information, photos, videos, drawings etc. about the flora, the fauna, the natural elements and any other human intervention of scientific interest.
This way, students will learn more about their own territory, will be the main actors of their own learning process, and will personally experience the value of science in order to understand and analyze the main features of the surrounding area they live in.
The collected materials will be processed and made available on the project portal in digital format, accompanied by appropriate explanatory texts.
Thanks to the collected materials, teachers, helped by experts, will produce a collection of small lessons aimed at identifying the connections with curricular activities and the related basic skills to be acquired.

Intellectual Output
The final result will be represented by a collection of information sheets, available on the project portal, focusing on the elements of the different territories analyzed, together with related learning units. Those sheets will be searchable according to different criteria: source of information (e.g. flora, fauna, environmental elements, etc.), scientific subjects (e.g. biology, chemistry, etc.).

Activity / Result 2 – Students' video lessons for the "peer to peer" learning process
The activity aims to engage students, duly assisted by teachers and experts, in the production of short video lessons (in English) on scientific subjects.
Through the peer to peer learning process, students will transmit to their European colleagues the scientific skills acquired during the research and the production of the first intellectual output.
The videos produced will be then edited and post produced by the project partners and will be available on the project portal.

Intellectual Output
Collection of didactic videos aiming to the learning process of scientific skills according to a peer to peer approach.

Activity / Result 3 – Teachers' guide named after "Innovation in the teaching of scientific subjects"
The project partners will produce a Guide addressed to teachers and focusing on the subject of innovation in the teaching of scientific subjects.

Intellectual Output
The contents of the Guide, which will be based on the experience developed during the project, will be organised in three chapters:
- how to teach scientific subjects using the surrounding environment as main source
- how to motivate students in the approach to scientific subjects through their active involvement in the learning process
- how to use new technologies to promote the scientific knowledge

Activity / Result 4 – Interactive map
The project partners will support the technical partner in the development of an interactive map, available on the project portal, which will guide the end users in the discovery of the analyzed areas through an interactive access to the information collected by students and teachers.

Intellectual Output
The interactive map will allow a "remote" knowledge of the areas analyzed, by promoting students' virtual mobility and by offering students and teachers the possibility to learn similarities and differences related to several European areas. In addition, the map will allow experiencing an on-site cognitive experience. Thanks to this, other schools, close to the analyzed area, will have the opportunity to learn more about their environment, while simultaneously acquiring basic scientific skills.