

CONNECT

Inclusive open schooling
with engaging and
future-oriented science

GOOD PRACTICES

Description for the site:

Title: "Gorges and ravines of Crete: discovering the beauty of the land of gorges"

This good practice presents an open schooling initiative for the Connect project, developed by the teachers of the 3rd section of the 6th grade, Agapakis Manolis and the 1st section, Giannioti Vassiliki of the 34th Primary School, between 1/3/2022 and 14/6/2022. Members of the Forestry Service of Heraklion Crete and the Mountaineering Club of Heraklion participated in the activities. It was supported by Mrs Athina Doulia, coordinator of the educational project and responsible for the action plan "Discovering the natural wealth of my country: sustainable environmental and mythological routes", which was implemented by the participating primary schools in this European environmental project. This practice resulted in three videos presented on the CONNECT platform at the following link:

https://connect-eu.exus.co.uk/el/?attachment=2826&document_type=document&download_document_file=1&document_file=565

Care: The students were interested in the natural wealth of their country and specifically in the gorges of Greece and Crete with the main concerns being the clarification of the concept of gorge, the identification of the main gorges of both Greece and Crete and most importantly the preservation of the natural wealth of these steep routes. For this reason, after class discussion, it was considered necessary to investigate the flora and fauna of the gorges of Crete and the dangers that threaten them, with the ultimate goal of taking measures for their protection. The pupils who participated in the activities were thirty-four, aged about 9 and 12, from section 1 of 3rd grade and section 3 of the 6th grade of the 34th Primary School of Heraklion.

Know: The students used knowledge from Science, Geography, Language, Social and Civic Education, History, Visual Arts, Computer Science and Theatre Education. The skills practiced by the students were multiple such as processing questions and conducting research, recording interview questions, selecting key words from a text and creating a mind map, producing written discourse, collecting information, processing it and analysing data to draw conclusions, becoming familiar with the scientific way of research and data analysis, developing collaboration and effective communication skills.

Do: In the end, the students prepared projects on the main theme of the gorges as well as compositions with nature plants from the field visits, conceptual maps with the most important data from the meetings with expert scientists, a presentation with the progress of the work plan for the CONNECT project conference and helped in the creation of two videos through photos and information brought to the class about the most important gorges of Greece and Crete. They completed the activities as a team and with the support of their family, their classmates and the teachers who implemented this project. At the same time, there was an exchange of good practices and ideas between younger and older students, as the project involved the cooperation of children from the 3rd and 6th grades.



Conclusions on Open Schooling: The activity was integrated and adapted to the curriculum as it involved chapters from Language, History, Social and Civic Education, Geography, Visual Arts, Computer Science and Drama. It was an innovative programme that had the ultimate aim of learning through the mobilisation of all the pupils' senses, bringing them into contact with the natural wealth of their place, raising their awareness of environmental protection issues and making them take personal responsibility for the preservation of our natural heritage. Open schooling can be both useful and challenging for teachers because it seeks to learn through events experienced by the student while at the same time changing the venue of the lesson from the confines of the classroom to research in the field of observation.

The change/innovation was supported by: School management school association/network Local government Other: _____

Student results: The students were enthusiastic both during the implementation of the project and during the field visits. Initially, the activity of gathering information about the gorges of Crete, which required cooperation with their parents, piqued their interest. At the same time, their contribution to the creation of both the videos and the presentation for the CONNECT students' conference made them feel like fellow travellers in a common goal. In addition, the children were enthusiastic about the field trips and activities that took place before and after the visit. Specifically, they observed the flora of the gorges during the visit to the Spiliotissa gorge, which was explained to them by an employee of the Heraklion Forestry Service, they identified the threats and dangers of visiting a similar place, they tasted the joy of hiking following the instructions of a member of the Heraklion Hiking Club, they imagined and wrote stories with fairies and elves inspired by tales of their local folklore, they approached the gorges historically as hideouts of their ancestors during the wars and as trade routes, they created artistic compositions with nature materials and above all they enjoyed playing in the safe natural environment. A third grade student said after the project: "I didn't know that our place has such ornaments, madam. I told my parents and we went to cross the Spiliotissa Gorge this weekend" while a sixth-grade student: "I enjoyed most of all the creations we made with our hands. We got muddy, dirty, created andall good". Finally a sixth form pupil reported: "CONNECT made us bond as a team. I will never forget everything we all accomplished together!"

This practice contributed to the increase of:

engaging families with sciences involving girls in science raising awareness among students about careers in the natural sciences

Please specify: It is undeniable that this practice contributed to the families' engagement with science as the first activity carried out by the children was to find information and pictures about canyons. A prerequisite for carrying out this activity was the supervision of the whole activity by the parents and providing guidance as to what information was necessary to include. Finally, the participation of parents and students together with the class teachers in a student hike in the village of Krousonas, organized by the Heraklion Hiking Club, helped them to understand the importance of contact with nature was. At the same time, the young students learned about the science of forestry and the profession of forestry through the visit of an employee of the forestry service to our school.





Select the most relevant photo related to your initiative (which will be public and published under an open license) to represent the practice.



ABOUT THE CONNECT PARTNER that supported the school

ORGANISATION	Regional Directorate of Primary and Secondary Education of Crete (RDE)
COUNTRY	Greece
Όνομα συνεργάτη	Georgios Panselinas
Implementation period	Starting date: 01/03/2022 Ending date: 14/06/2022

ABOUT THE TEACHERS PARTICIPATED

SCHOOLS	34 th Primary School of Heraklion
TEACHERS names (for Good Practices' Certificates)	Giannioti Vasiliki Agapakis Manolis
Gender	Female Male
SUBJECT (Natural Sciences, Physics, Chemistry, Biology...)	SKILLS WORKSHOPS
How many subjects were used in open schooling?	LANGUAGE, HISTORY, HISTORY, SCIENCE, VISUAL ARTS, DRAMA, SOCIAL AND POLITICAL EDUCATION, SCIENCE, GEOGRAPHY





Title of open school education resource used	Educational script by Mrs. Athina Doulia entitled "Discovering the natural wealth of my place: Sustainable environmental and mythological routes"
Type of learning scenario of science activities (structured or open scenario)	Structured Educational Scenario
Curriculum modules	<ul style="list-style-type: none"> • LANGUAGE • HISTORY • GEOGRAPHY • ENVIRONMENTAL STUDIES-NATURAL SCIENCES • SCIENCE • THEATRICAL EDUCATION • SOCIAL AND POLITICAL EDUCATION • INFORMATION TECHNOLOGY

ABOUT THE STUDENTS PARTICIPATED

Class	3 rd and 6 th grade
Age (average)	9 and 12 years old
Number of students participated that concluded the educational scenario	34
Number of students who completed the educational scenario of scientific activities	34

SCIENTISTS PARTICIPATED:

Name	Arvanitis Pantelis Sara Ilianna
Field	Forester-Employee of the Forestry Service of Heraklion Teacher-Member of the Heraklion Hiking Club

QUESTIONNAIRE

01. How have you (teachers) used open educational resources? Could you describe what you did in your lessons?

Student activities with scientists:

After their research on the gorges of their region, the flora and fauna as well as the main dangers and threats, the students recorded questions in order to interact with both the forester who visited our school and the member of the Heraklion Hiking Club who taught the young students the benefits of hiking. Following the visits, the students, divided into groups, made conceptual maps with the main points of the presentation by the experts, while they prepared the hiker's backpack as they participated with their parents in the hiking tour of Krousonas and the excursions to the gully of Fodele and the Spilotissa Gorge. In this way, on the one hand, they organised the information given to them in a plan and on the other hand, they followed in practice the advice for a pleasant excursion in nature without any unexpected events and risks.





Student activities with their families:

First, the students of the two classes were given an envelope containing a piece of paper of a different colour, thus dividing them into two groups. The first group was asked to list 5 of the most important gorges in Greece while the second group was asked to identify the 5 most important gorges in Crete and to record the most important information about them. A common theme of investigation for both groups was the recording of a definition on the concept of a gorge. At the same time the instruction was given to accompany the information with relevant pictures in order to create a video with the students' information. After the results of the young students' research were presented to the classrooms, a second cycle of information gathering followed, for the first group on the flora of the gorges of Crete and the dangers they pose, and for the second group on the fauna of these areas and the prospects for their protection. The information gathered was accompanied by a wealth of photographic material. It goes without saying that the assistance of the pupils' parents was sought for this activity.

At the same time, the children had the opportunity to take part, together with their parents and class teachers, in a student hike in the village of Krousonas, an activity organized by the Heraklion Hiking Club.

02. How have your students used the CONNECT resources? Do you have (or could describe) samples of better scientific actions (for our site/rewards)?

Any examples of what the students prepared?

The most important achievement of this project was the multi-sensory engagement with the topic. Specifically:

A. The students, after exploring the concept of a canyon, made a visual representation of it in groups using mixed media.

B. Using a mixed media technique, they constructed a clay tic-tac-toe to play on their field trips

Γ. They carried out the following activities during their visit to Spiliotissa Gorge, Fodele and Krousonas:

- Collecting objects from the natural environment with a particular characteristic (shape, colour, smell, touch, etc.) in order to compose the visual creation "With the colours of nature",
- Selection of leaves and fruits with which they created visual compositions with leaves or constructions as souvenirs of their excursions.
- Observing and recording evidence of the existence of fauna in the area (e.g. eaten leaf, nest in a tree, spider web, etc.),
- Reading fairy tales related to legends and myths such as the existence of fairies and other mythical creatures near areas with a strong water element,
- Recording nature sounds,
- Identifying areas visited on the map and plotting the route they followed,
- Creation of conceptual maps related to the flora, fauna of the canyons, their dangers and threats, how they are exploited, and the possibilities for their protection.
- Production of written discourse related to the experience lived after each excursion using the technique of the 5 senses (what did I hear, what did I touch, what did I smell, what did I taste, what did I see?)
- Selection of images and key information to create videos and presentations of these activities,
- Recording interview questions to the scientists who visited our school,
- A theatrical game on the theme "we behave as plants",
- Creation of an aromatic plant bed in our school.





Slide? Poster? Video?

(Add an image if possible)



Artistic rendering of a canyon by the 6th grade



Artistic rendering of a canyon by the 3th grade





03. How well did the science action learning scenario resources meet your needs?

Example related to the school curriculum:

The activities of the educational scenario were based on the general objectives of the school curriculum.

In terms of language in the spoken word, the student learned to analyse his/her thinking by arguing and enriching his/her vocabulary. In terms of speech production, he was able to produce different types of texts, to use information from a map, to use the computer to process a text by transforming it into a diagram with the appropriate choice of key words.

In the history lesson, the students were introduced to myths and legends, part of their folk tradition, while at the same time they understood the role of the gorges in the years of the Turkish occupation. In this way they linked these places to events in their local history.

As for the lesson of Environmental Studies and Social and Civic Education, the students became aware of the role of human activity in the natural environment and at the same time understood the need to take initiatives and cooperate with the local community in order to preserve their natural heritage. At the same time they understood the role of the parts of the plant and the process of photosynthesis.

In terms of the Science lesson, they became familiar with the scientific way of research and information gathering, they learned about the forest ecosystems of their area and the flora and fauna of the Cretan land.

In the visual arts, they used various materials and techniques to create works of art, while at the same time, through their visit to the museum of Dominikos Theotokopoulos in Fodele, they came into contact with typical styles of the period.

In terms of IT, they learned to incorporate images into text, to edit and format text and to save their work.

Finally, as regards the theatrical education lesson, the students worked effectively within the group, developed their communication skills, especially non-verbal communication, and finally developed creative expression skills.

Students involvement:

The involvement of the students was particularly high in this educational activity as the activities were carried out by them with the teacher in the role of coordinator and assistant in the whole process.

Student interest and confidence in science:

Through the project they became familiar with the scientific method of observation and data collection while at the same time they came into contact with the science of forestry, knowing its role in the conservation of our country's ecosystems.

04. How easy or difficult it was to use the science action learning scenario resources?

Issues related to materials, procedures, pressure from the interaction with the curriculum:

The implementation of the Project was included in the Skills Workshops and specifically in the cycle "Caring for the environment: global and local cultural heritage", a topic common to both the third and sixth grade. The implementation plan was carried out from March to mid-June of the year 2022, when educational visits, which had been temporarily banned due to the measures against the





spread of the covid19 pandemic, were now allowed. This helped to achieve the objectives of the project more effectively, as there can be no environmental project without action in the field.

05. What were the benefits of implementing the science action learning scenario for your students?

Describe the results of the students in their scientific actions related to:

<p>KNOWLEDGE</p>	<p>The students succeeded:</p> <ul style="list-style-type: none"> - clarify the meaning of the canyon, - to understand the most important gorges of their country and their value as an integral part of the natural wealth of their country, - record their biotic (flora and fauna) and abiotic elements, - identify the risks that threaten them, - learn about ways and means of protecting them, - learn the basic elements of a hike (contents of a hiker's rucksack, trail signs, appropriate actions during the hike, etc.) - learn about the role of the Forestry Service and foresters, - to become familiar with many types of writing (summaries, narration of experiences, fictional stories, and the technique of creating mental maps, - acquire knowledge of the scientific way of researching and collecting information, - to recognize the role of human activity in shaping and functioning of the environment
<p>SKILLS</p>	<p>Students are able to :</p> <ul style="list-style-type: none"> - find solutions to problems of an environmental nature, - discover and plan sustainable routes, - appreciate the value of their local natural wealth, - cooperate effectively through the assignment of different activities for a common goal (artistic creations, group activities in nature, video and presentation of their activities), - develop their creativity through creations with natural materials, - to develop their creativity through the use of creative activities in the field of nature, by means of creative activities involving the use of materials from nature, and to become familiar with the study of a map and the drawing of routes, - familiarise themselves with ways of orientation, - acquire skills in observing, recording and classifying data.
<p>ATTITUDES</p>	<p>Finally the students succeeded:</p> <ul style="list-style-type: none"> - raise awareness on issues related to the protection of the gorges and forests of Crete, - mobilize themselves to take action for the protection of their natural heritage, - understand their individual responsibility to protect their natural heritage.





06. What have been the challenges of using educational science activity scenarios for your students?

Main challenges faced by students (Please select all that apply):

- Difficult...
- Long duration...
- Boring...
- Other (field research, familiarity with scientific research and information gathering methods)

07. What activities worked well with the curriculum?

What helped the children achieve the learning objectives:

The advantages of this training project were the cooperative activities both in school and in the field, which excited the children because of the variety they included. Each activity attracted the interest of the students because it had a different theme and involved a variety of disciplines.

08. What activities did not work well with the curriculum;

Anything that could be done differently or avoided:

Students in 3rd grade were mostly late in recording the relevant information about the gorges of Greece or Crete, while others did not respond to this activity. It is possible that searching and recording the main information in class as group work for the younger pupils while using a computer would be more effective.

09. The school Principal's opinion about CONNECT:

The European project Connect benefited the students of our school in many ways. The most important thing is that they came in contact with a very important part of the natural wealth of their country, the gorges, they recognized the problems that man causes to nature and, through the actions, they were committed to take active measures to protect it. We look forward to the results of this year's implementation of this educational project!

10. Parents' opinion about CONNECT:

Through the implementation of the European project Connect, we were given the opportunity as a family to explore the gorges of Crete, searching for information and photos that really impressed us, but also to go hiking with our teachers and our children. I won't forget my child's enthusiasm after each excursion that took place within the framework of this project and his insistence that we should



visit these places as well. Well done to everyone! In anticipation of more similar activities...

Submission:

1. Please save the file in the following format: **YEAR MONTH DATE COUNTRY SCHOOL** (e.g. 20220326GR1stPrimarySchoolHeraklion. docx)
2. Please send this form to CONNECT Panel: <https://tinyurl.com/Connectbestpractices2022>

