

CONNECT

Inclusive open schooling
with engaging and
future-oriented science

BEST PRACTICES

Description for the website:

Title: CONNECT with LVM

This report presents an open schooling initiative on Biodegradable Plastics – A Solution for White Pollution, which was developed at Voievodul Mircea High School in Targoviste by Prof. Coşoveanu Francesca, Prof. Diaconescu Cristina, Prof. Dumitrescu Anca, Prof. Eftimie Cristina, Prof. Nae Florentina Laura, Prof. Oncioiu Diana and laboratory worker Ursăchescu Eugenia, during the period in the school year 2022-2023. The activities did not include a science professional. It was supported by Valahia University in Targoviste, Romania. This work was presented earlier in this article. Evidence of implementation can be found here:

https://connect-eu.exus.co.uk/ro/members/cristina_mihaela/documents/

<https://connect-eu.exus.co.uk/ro/members/francesca/documents/>

Care: Students have been actively involved in scientific and educational activities on plastic pollution, a real-life problem that has a significant impact on quality of life. The students who participated in the activities were from grades IX-XI, aged between 15-18 years, being approximately 85 students participating.

Know: Students used knowledge about plastics discovered in the discipline of chemistry - phases of biodegradation of plastics, chemical composition of plastic, stages of making biodegradable plastic, results obtained by researchers on the period of decomposition of biodegradable plastic in nature, etc. (describe scientific topics). The competences that the students practiced were:

- Brainstorming debates;
- Carrying out individual or team projects through the aspects subject to research;
- Involvement in volunteering and greening activities;
- Discussions on the use of biodegradable materials and their decomposition in nature;
- Analysis of plastics (PET bottle, plastic bags, household bags, etc.);
- Documentation to identify the real situation in the field;
- Conducting information campaigns on the risks of White Pollution;



- Explanation of symbols on packaging labels;

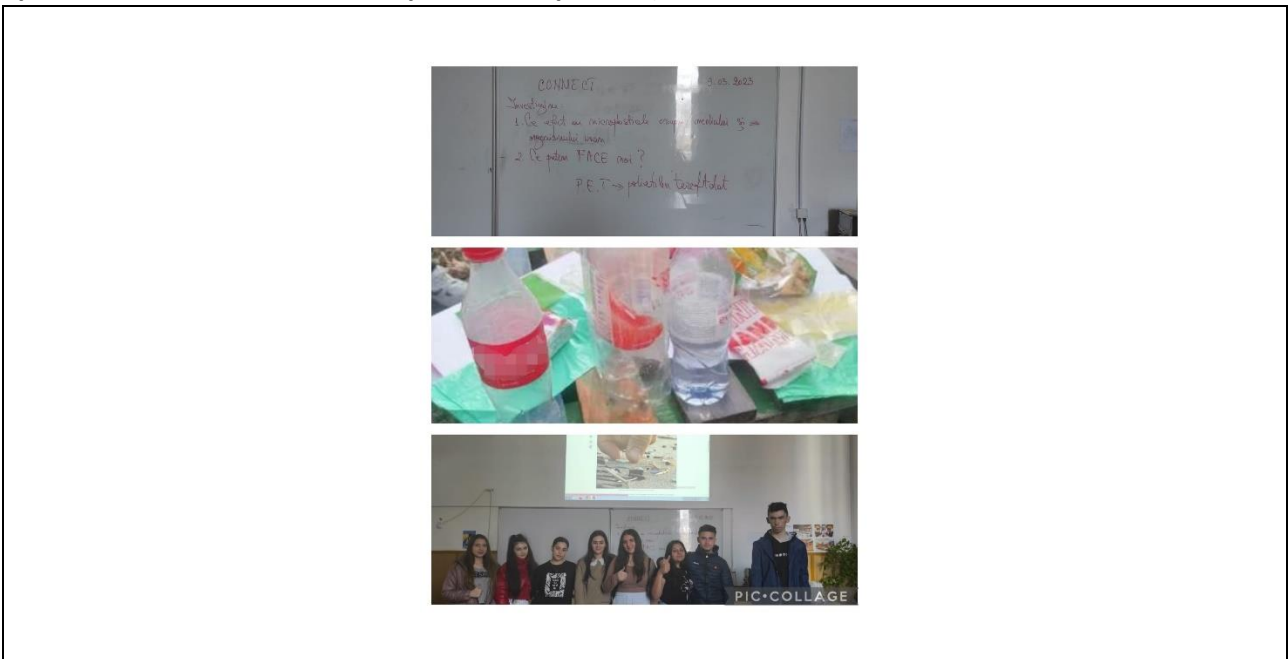
Do: At the end, students prepared posters, posters, thematic drawings, questionnaires, information campaign, research projects. They carried out the activities individually and in teams, being supported by their families, but also by volunteers from non-governmental organizations.

Findings related to the Open Schooling approach: The activities carried out during the implementation of the Connect project were included in the curriculum. We can also mention that the materials provided were useful in preparing and implementing lessons with students. The topic addressed in Year 3 was also relevant and innovative from a scientific and educational point of view, being debated globally. Thus, students had the opportunity to know and experience individually the ways in which they can get involved in preventing and combating environmental pollution. Open schooling could also be useful for other teachers because we can focus on transdisciplinarity and an exchange of good practices can be made between teachers who have implemented in year 2 and 3 and teachers who want to join us.

Student achievements: Students were enthusiastic to participate in volunteering and greening activities where they could observe, for example, the phases of biodegradation, but also connected with nature, helping to protect the environment and improve quality of life.

The students involved have formed their scientific research skills, actively participating in the realization of projects and studies on White Pollution, being able to apply the knowledge learned after going through the support materials.

Please select the most relevant photo about your initiative (which will be public and published under an open license on the website to represent the practice).





ABOUT the CONNECT institution that supported the school	
ORGANIZATION	Valahia University of Targoviste
COUNTRY	Romania
Name of partner (contact person)	Bîzoi Mihai
Implementation period	Original date: 01/11/2022 Finish date: 15/07/2023
ABOUT THE INTERVIEWED TEACHER(S)	
SCHOOL	Voievode Mircea Targoviste High School
Names of TEACHERS (for certificates of good practice)	Prof. Francesca Cosoveanu Prof. Diaconescu Cristina Prof. Dumitrescu Anca Prof. Eftimie Cristina Prof. Nae Florentina Laura Prof. Oncioiu Diana Eugenia Ursăchescu Laboratory
LIKE	F
DISCIPLINE (Science, Physics, Chemistry, Biology, ...)	Entrepreneurship education / biology / chemistry / technical subjects / geography / biology / laboratory
How many lessons were used in open schooling?	20
Title of the Open School Resource used	Support material for Biodegradable Plastics – A Solution to White Pollution
Type of scientific actions (structured or open-ended scenario)	structured and/or open
Curricular themes	Environmental protection, Business ethics, Business risks, Genetic mutations, Hygiene and pathology, Ecological imbalances, Pollution and environmental protection, Waste management;
ABOUT TEACHERS' STUDENTS	
Class	IX-XI
Average age	16
Total student participants	85
Total students who have completed scientific actions	50
SCIENTISTS INVOLVED:	
Name	-
Field	-





Questionnaire

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

Student activities with scientists:

-

Student activities with families:

- Identifying the amount of plastic used in a family for a week;
- Arguing the choice between conventional plastics and biodegradable plastics;
- Collection of plastic products containing ECO symbols;
- Identifying sources of pollution in the community.

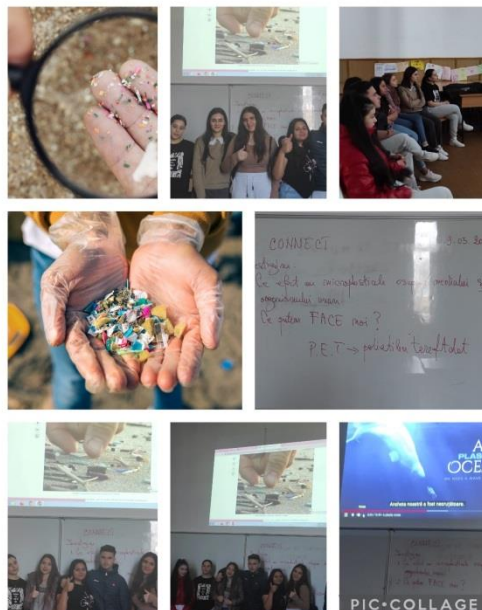
02. How have your students used the CONNECT resources? Do you have (or could you describe) examples of the best scientific action (for our website/awards)?

Any examples of why the students prepared?

The students made appropriate use of the resources from the support materials.

They also conducted information campaigns at school level to disseminate and involve students who were not involved in Connect project activities.

Slide? Poster? Video? (Add some images if possible)





03. To what extent have the resources of scientific actions responded to your needs?

Needs related, for example, to school curricula:

The support material provided was a real support in implementing the teaching activities, facilitating the teaching of the contents of the school curriculum.

Open educational resources have been useful for designing a modern, interactive lesson, assuming a rethinking of the classical lesson. By using REDs we aimed to increase students' motivation, adapting the instructive-educational approach in the manner of a modern, interactive lesson.

Student involvement:

Students initially felt insecure, but they managed to overcome this state, got involved and came to appreciate very much the new way of learning.

Students' interest and confidence in science:

Students were interested in discovering new, current things related to science, technology and environment, realizing that through scientific innovation they contribute to solving the problem of pollution in the community.

04. How easy or difficult was it to use the resources of scientific actions?

Please add any specific issues related to materials, procedures, interactions, or curriculum:

Through technology, we managed to go through support materials and thematic workshops were also held within the National Different School Program, which facilitated the transmission of knowledge.

05. What have been the benefits of open schooling for your students?

Describe the results achieved by students in their scientific actions related to:

KNOWLEDGE

- Identification of environmental risks as a result of entrepreneurial activities, in science, health education
- Identifying ethical principles in business relationships
- Waste management priorities
- Identification of pollution sources, impacts on the environment and human health
- Types of biodegradable materials

SKILLS

- Application of environmental protection rules
- Anticipation of the consequences of the activity of the entrepreneur, consumer on the environment





ATTITUDES

- Identifying alternative solutions to community problems
- Compliance with environmental protection rules
- Independence in thought and action, positive relationship with others
- Environmental and social responsibility

06. What were the challenges of using scientific actions for your students?

Select the main challenges students faced and exemplify:

- Difficult...
- Long...
- Boring...
- Other (Please specify): Busy syllabus, student commuting.

07. What activities worked well within the curriculum?

What helped students achieve their learning goals:

The activities allowed us a modern, transdisciplinary approach, thus transforming the classroom into a creative learning environment, where students learned new ways to solve problems, acquired those competences targeted by the curriculum, created and used work tools in an innovative way. Science and technology are part of our lives, and using them in a way that brings value is important.

08. What activities did not work well within the curriculum?

Anything that could be done differently or avoided:

This was not the case as the activities carried out increased motivation for learning because the contents were designed according to children's interests and learning was based on investigation, experimentation, active participation of the child in his/her own learning, students becoming more confident in their work power, more accountable to the activities carried out, more involved, more tolerant and more creative.

