

## B-ECO

### A. Information about the applicant

The name of the institution:	National College " Gh. Vrănceanu", Bacău County, Romania
The address	Nr.34, Lucretiu Patrașcanu street, Bacău
Phone	0334405941
Project coordinators	Art Teacher – Mădălina Brebu French Teacher – Mihaela Cojan
Number of teachers taking part in this project	7 Romanian teachers + Turkish teachers
Number of students taking part in this project	40 Romanian students + Turkish students

### B. Information about the project

B.1. The title: *B-ECO*

B.2. The educational domain: ecological education, STEAM education

B.3. The place and the period of implementation: National College" Gh. Vrănceanu" Bacău County, Romania, 01.01.2024 – 31.08.2024

### C. The project description

#### C.1. Beneficiaries

- 40 students, teachers directly involved;
- 50 community members;

#### C.2. Argument, justification, context

People change the world in which they live. The human race differs from all others in the changes it causes to the environment. This aspect can be good or bad. Due to the changes made, humans have progressed a lot and have been able to live almost everywhere on earth, but now:

- The habitable surface of the earth has been partially or severely damaged in proportion to  $\frac{3}{4}$  due to human activity;
- Some experts believe that humans have already used 33% of the earth's natural resources.

In addition, the population continues to grow. If there are currently about 6.5 billion people living on the globe, it is estimated that in 2060 the population will exceed 9 billion people. Future growth will take place mainly in developing countries (estimated at 99%), which will further strain natural resources.

A large number of resources are at risk of being depleted, such as forests, water, fossil fuels, soil, and biodiversity declines. It is necessary to take into account the fact that our society – which is

based on consumption – is the biggest waste-production, historically speaking, their disposal being one of the big problems of the environment.

At this point, the environmental problems of contemporary society implies ecological education, aimed at training students' skills based on prevention, correction, effective practice behaviour in accordance with the principles of a natural, clean, diverse environment. Ecological education is imperatively necessary because of the environmental issue that has become indispensable in any current context of debate and decision: political, economic, social. The young generation must be aware of and demonstrate pro-ecological behaviour, prevention and preservation of the environment, selective collection of waste, respect for the principles of sustainable development.

This project aims to approach the ecological issues of our time, in an educational context, focused on STEAM methods and tools. STEAM was born from the desire to emulate how life actually operates by merging four core disciplines: science, technology, engineering, art and math. In the real world, these disciplines often work together seamlessly. But if we want to prepare children to be future scientists, to deal with any environmental problem, we need to inform them about the past. We show students how science is actually conducted; and we have the opportunity to spotlight scientists who have been written out of history—and thus invite more students into the world of science. So, the project is based on educational STEAM approach.

### C.3. The purpose of the project

The development of ecological behaviours and attitudes of students towards the environment and human relations with the environment, manifested at school, at home, in various contexts of everyday life, using the educational STEAM approach.

### C.4. The specific objectives of the project

- promoting current environmental issues among students;
- the students' demonstration of behaviours and attitudes to protect the environment: selective garbage collection, saving energy, preventing food waste, recycling reusable materials;
- teachers, regardless of the discipline, include in their lessons didactic activities for the formation and development of skills to preserve and protect the environment;
- the development of a pro-environmental culture and sustainable development within the school institution and at community level;
- developing students' skills to solve environmental problems, through involvement in the community and cooperation with students from other European countries;
- building critical thinking by STEAM;

### C5. Planning of the proposed activities

<b><i>Month</i></b>	<b><i>Period</i></b>	<b><i>Name</i></b>
January	01.01 – 15.01.2024	Organising the teachers team project
	16.01 - 31.01.2024	Promotion of the project in community Students selection procedure for the mobility

February March		Students selection procedure for the mobility  <i>"Our Eco – city"</i> describing an eco – friendly city and creating a mini model of one.  <i>Ecological habits at school and home</i>
April	24.04.2024	Debate ( World School Format)- <i>Fast fashion – an ecological problem?</i>
May	10.05 – 17.05.2024	Students mobility in Turkey
	20.05 – 31.05.2024	Dissemination of mobility results
June		<i>Students are teachers!</i> Teaching lessons based on STEAM approach – demonstrative activities
	10.06 – 21.06.2024	<i>The story of our project in photographs – a collection</i>
July		Conclusions – webinar with teachers – reflection on introducing principles of circular economy in our classrooms curricula
August		

#### C.6.. Description of the activities

<b>The name of the activity</b>	<b>Teachers involved/ number of students involved</b>	<b>Coordinator</b>	<b>Description</b>	<b>Expected behaviours and attitudes ( results)</b>
Organising the team project	Prof. Andrei Cristina Prof. Brebu Mădălina Prof. Cojan Mihaela	Prof. Andrei Cristina	The selection of teachers who will implement the project in the 2023-2024 school year	Nomination of teachers involved
Promotion of the project in community	Prof. Brebu Mădălina Prof. Cojan Mihaela	Prof. Brebu Mădălina Prof. Cojan Mihaela	Elaboration of the project, presentation in the Council of the College, on the Facebook page, on the Whatsapp groups of the classes, activity design meetings with school partner.	The project written, discussed and agreed with the partners in Turkey
Students selection procedure for the mobility	Prof. Brebu Mădălina Prof. Cojan Mihaela	Prof. Brebu Mădălina Prof. Cojan Mihaela	Application of the selection procedure of the 8 students who will take part in external mobility in May	List of participating students, their assumption of availability and

				responsibility to take part in all project activities.
Erasmus mobility with our students in Turcia	Prof. Brebu Mădălina Prof. Cojan Mihaela	Prof. Brebu Mădălina Prof. Cojan Mihaela	The 8 high school students, accompanied by the teachers' project coordinators, will travel to the partner school unit in Turkey, where they will participate in activities consistent with the project theme.	Exchange of good practices in environmental protection  The project of learning activities on the theme of ecological education  Development of international cooperation between schools
Creating the virtual space <i>Eco- Twinspace</i> to serve as a dissemination tool and resources platform	Brebu Mădălina, Cojan Mihaela,  Paic Ștefan  Bucur Oana	Brebu Mădălina Cojan Mihaela	We will create Twinspace, which will serve as our dissemination tool and resource platform. The eTwinning platform will be used in all stages of the project, actively. We will also upload all the results of the project (videos, pictures, created lessons, reports, etc.) to the eTwinning platform, so that we can offer colleagues and other interested teachers the opportunity to have access, free of charge, to its results.  The platform will serve as a work and learning space for project participants, where resources created within the project will be posted, photos documenting the project implementation, forum space that will allow permanent communication between students and teachers involved in the project	Accessible virtual learning space
	Brebu	Brebu	informative presentations,	Minimum 2

Dissemination of mobility results	Mădălina Cojan Mihaela	Mădălina Cojan Mihaela	publication of articles in the school magazine, posts on the Facebook page	dissemination activities
<i>Ecological habits at school and home – a virtual workshop with students and teachers involved in the project</i>	Brebu Mădălina Cojan Mihaela	Brebu Mădălina Cojan Mihaela	Students and teachers will participate in an online workshop in which they will present actions, behaviours that conserve and protect the natural environment.	Minimum 25 students participants Minimum 4 teachers
<i>- Fast fashion – an ecological problem?</i>	Brebu Mădălina Cojan Mihaela Marinela Bușteagă Crăciun Anca	Brebu Mădălina	In order to carry out the activity, will be formed groups of students whom will study the topic and be prepared to debate on either side. On the selected day they will receive the pro or con side of debate. The debate will be arbitrated by the involved teacher.	2 teams, 4 students participants, 12 students as audience
<i>"Our Eco – city" describing an eco – friendly city and creating a mini model of one</i>	Brebu Mădălina Cojan Mihaela	Cojan Mihaela	The students will study and propose a model of an eco-friendly city from infrastructure, urban planning building models, recycling points of view. Afterword the final product will be a mini model of a town.	8 students
<i>Students are teachers!</i>	Brebu Mădălina Cojan Mihaela	Cojan Mihaela	Teaching lessons based on STEAM approach – demonstrative activities	Minimum 2 activities performed by students
<i>The story of our project in photographs – a collection</i>	Brebu Mădălina Cojan Mihaela	Brebu Mădălina Cojan Mihaela	creating a collection of photos taken by students during the project	Minimum 100 photos, posted as a collection on the platform

#### D. The estimated educational impact on the target group

Through the planned activities, the students will develop pro-ecological behaviours and attitudes daily manifested:

- selective waste collection

- saving energy
- greening of green areas
- recycling of reusable materials

### **E. Qualitative and quantitative results expected as a result of project implementation**

- Increasing by at least 20%, in the following school year, the number of students who participate in extracurricular activities on an ecological theme, in the schools involved in the project;
- Increase by at least 10%, in the following school year, the number of didactic and extracurricular activities on the topic of ecological education, in the schools involved in the project;
- Increasing by at least 10% the number of student articles on ecology and sustainable development in the partners' school magazines;

### **F. Ways of monitoring and evaluating the project**

To monitor the project, a register will be established in which minutes from the activities carried out within the project will be recorded, and the project portfolio will include the opinions of the project participants, activity observation sheets, questionnaires, suggestions for improving the activities.

Results measurement indicators: number of students participating in the project activities; number of students awarded during the course of the project; number of student articles published in the school magazine;; number of participating teachers;

Evaluation methods applied during the project, but also afterwards: the interview, document analysis, satisfaction questionnaires.

### **G. Ways to ensure the continuity/sustainability of the project**

Teaching staff will have methodological resources and supporting materials to address the theme of ecological education in the didactic activities subsequent to the project.

Students will still have the opportunity to publish in school magazines on this topic and will demonstrate pro-environmental behaviours in various life situations.

### **H. Risks involved in the project and the response plan**

Risks: unfavourable weather conditions, under-budgeting of activities, political national and international context;

The response plan: reschedule the activities, reducing the number of participants in the budgeted activities, obtaining financial support from some sponsors;

## **I. Promotion/media and dissemination activities**

The promotion/media activities that we intend to carry out aim at:

- publication of articles in school magazines ("Gaudeamus" - C.N. "Gh. Vrănceanu" Bacău);
- Presentation of the project to representatives of NGOs, of the local community, etc.;
- Popularization of the project through the school's display space, posting on the school's Facebook page, on the school's website;
- Creation of a brochure with good practices in teaching ecological education;
- Dissemination activities: presentation of informative materials, round tables, school meetings;

Project coordinators,

Brebu Mădălina – art teacher

Cojan Mihaela – French teacher

National College "Gh. Vrănceanu" Bacău,  
Manager Resmeriță Monica