



Erasmus+ 2020 Strategic Partnerships Schools

INTRO

CLIMATE CHANGE EDUCATION

Climate change offers an open door to students' re-engagement in science

Detailed Concept Paper available on request



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All photos by WWEU from the Open Science Schooling project



SUMMARY

Erasmus+ 2020 Horizontal Priorities

Environmental and climate goals:

“The programme will also support the testing of innovative practices to prepare learners, staff and youth workers to become true factors of change (e.g. save resources, reduce energy use and waste, compensate carbon footprint emissions, opt for sustainable food and mobility choices, etc.). Priority will also be given to projects that - through education, training, youth and sport activities - enable behavioural changes for individual preferences, consumption habits, and lifestyles.”

“Students who are best prepared for the future are CHANGE AGENTS”.

OECD, “Education 2030”, 2018

“Today, most of the projects that kids do in class - even those that are called “real” - do not affect the world outside the classroom at all.”

Marc Prensky, “Education to Better their World - Unleashing the power of 21st century kids”, 2016

Challenge

The Climate Change Education project addresses two of the most urgent challenges in Europe:

- creating new, much more attractive and innovative science learning in secondary schools
- engaging the young generation in climate change prevention and preparing them to act on climate change in the near and far future

Climate change engagement offers science education the most promising way to create fundamentally new and attractive ways for young teenagers to create deep interests in science, as climate change provides a wide range of scientific challenges, offers the young students a strong sense of relevance and importance - and at the same time offers them hitherto unseen opportunities to learn science through accomplishing important real-life missions in their communities.

This unique opportunity, this unique momentum should not be lost to European science education innovation.

European response to challenge

The European Commission long-term strategies strongly support the idea of using climate change prevention as a platform for creating more attractive science education.

The Commission has for many years invited experimentation with engaging the young students in real-life science and innovation activities, going far beyond traditional classroom teaching; in particular in secondary school as joint research clearly states that the young people precisely create their “science images” in

the teenage years.

At the same time the Commission strongly urges all citizens, and the young generations in particular, to engage in climate change prevention: in school, in the families, in the community and globally.

One might say that the deep engagement of the young generations in climate change prevention is the most important success criteria for any local or global climate change prevention.

Project's key accomplishment

The project is one of the first projects in Europe to use climate change engagement as a platform for innovative science learning.

Doing this is a major accomplishment in itself and the outcomes of the project will be of tremendous importance to secondary schools, science teachers and students from across Europe.

Supporting this accomplishment is the fact that the project will not bring climate change action and science learning innovation together at a rhetoric or theoretical level.

As stated by the UNESCO just a few months ago:

“While a shift in educational discourse has been observed in many countries, too many practices remain unchanged.

UNESCO, “Education research and foresight”, March 2019

On the contrary, the project will build its results on students’ direct, real-life and mission based accomplishments.

The resources the project will offer secondary schools as a result of the project will therefore be intuitively usable to teachers and students.

Project's key innovation

To repeat: the project is one of the first projects in Europe to use climate change engagement as a platform for innovative science learning.

A series of further Erasmus+ experimentation is expected to build on and refer to this first opening project.

The project includes 4 integrated and mutually reinforcing innovations:

- it uses climate change engagement as a platform for engaging and re-engaging young students in science learning
- it will engage the young students in real-life and important climate change prevention missions, not simply create “awareness” among the young students
- it will base the students’ engagement on the new open science schooling methodology, strongly recommended by the Commission and leading research, and tested through successful Erasmus+ projects
- it will allow teenage girls to re-engage in science learning, as climate change prevention is known to be of great importance to in particular female students (it is not accidental that Greta Thunberg is a female teenager)

Project's key work method

The project will base its activities on the most promising science learning innovation methodology, developed in recent years through a number of Erasmus+ projects: the open science schooling methodology.

The most important elements in the open science schooling methodology are:

- science learning is based on students’ engagement in real-life science missions, important to the community and to the students themselves, thus going far beyond traditional classroom teaching known to be irrelevant and disengaging to

an increasing number of 21st century students in secondary school

- the students work in small teams, detect interesting and important science-related activities in the community and engage deeply in the identified challenges
- the student teams collaborate all along the missions with relevant community players and online resources
- the student teams learn “theoretical science” in time-outs: when needed, not when scheduled; this increases the relevance of the learning tremendously
- the students learn to document their science missions with creative media, in collaboration with the student teams from the other participating countries
- the open science schooling methodology will allow students to combine local action with global orientation, a combination incredibly important in climate change prevention
- the teachers learn side-by-side with the students and serve as facilitators and inspirators

The open science schooling methodology has proven to be a great engager of young students not engaged in science and not finding science learning attractive.

Project’s key results

The key outcomes of the project will be co-created by teachers and students to ensure a high relevance to teachers and students from across Europe.

The outcomes will be based on the documentation of the student teams’ climate change missions.

The project has 4 target audiences, and the project will create dedicated outcomes to all target audiences.

The 4 target audiences and related dedicated outcomes are:

YOUNG STUDENTS

- Outcome 1: The school guide to climate change education
- Outcome 2: Why teenage girls will engage in climate change based science education
- Outcome 3: The climate change education Video

SCIENCE TEACHERS AND SECONDARY SCHOOLS

- Outcome 1: The school guide to climate change education
- Outcome 2: Why teenage girls will engage in climate change based science education
- Outcome 3: The climate change education Video

POLICY MAKERS IN THE FIELD OF SCIENCE EDUCATION INNOVATION

- Outcome 4: A future-directed platform to engage teenage students in science

POLICY MAKERS IN THE FIELD OF CLIMATE CHANGE PREVENTION

- Outcome 5: Engaging the young generations in climate change prevention through innovative science education

COMMENTS



Climate change in action 2019