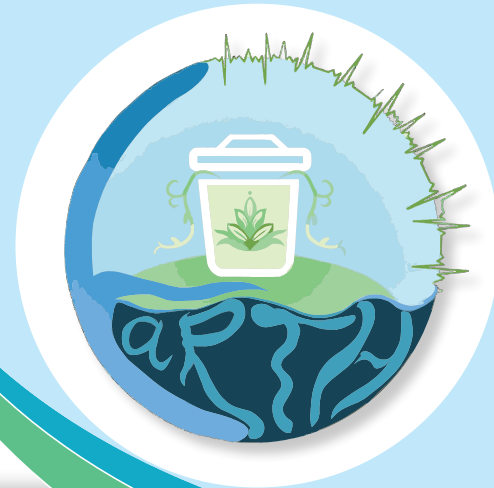


EA_rTH

Embracing uncertAinty wHile fighting for sustainable development

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PROJECT SUMMARY:

The goal was to provide efficient resources tailored to the needs of students and teachers, enabling them to cope with the challenges of a future marked by climate change. Simultaneously, we aimed to raise awareness among students about the importance of the circular economy and encourage them to find creative solutions to challenges related to resource use.

In achieving this goal, the project focused on three main components: the creation of the **EA_rTH Curriculum**, the development of the **EA_rTH Learning Platform**, and the **EA_rTH Challenge Competition**. These were accomplished through close collaboration among all project partners, with the various stages managed and implemented within different activities carried out over time, such as TPM, LTTA, Multiplication Events, and local activities in partner institutions.

OBJECTIVES:

The EA_rTH project, a collaboration among six European partners in the field of education, was initiated to address the challenges of transitioning to a green and sustainable society. This partnership had three key objectives.

Firstly, the emphasis was on developing an innovative methodology and "ready-to-use" learning materials to support schools in addressing climate change and education for sustainability. The goal was to provide efficient resources, tailored to the needs of students and educators, enabling them to face the challenges of a future marked by climate change.

The second objective aimed to promote active pedagogies, such as inquiry-based and project-based learning. These interactive methods were integrated into various subjects, creating an interdisciplinary learning experience. The focus was on developing collaboration and problem-solving skills, encouraging students to address circular economy challenges in real-life scenarios.

The final objective we focused on was to integrate circular economy challenges into school programs. Students involved in activities understood the importance of STEM disciplines in saving the planet. This approach offered a practical perspective on how science and technology contribute to solving environmental problems.

Through these objectives and active collaboration, the EA_rTH project not only provides educational resources but also promotes a paradigm shift in education's approach and preparation for the challenges of a sustainable future.

PROJECT ACTIVITIES OVERVIEW:

1. **TPM I Romania:** Discussed project objectives, identified potential challenges, established the four main themes for the two Intellectual Outputs (IO), and explored opportunities to involve the target audience more effectively. Responsibilities of each partner were defined, steps for completing and testing each intellectual output were established, and a risk analysis was conducted. Additionally, a set of communication rules was established for successful partner communication.

2. IO1 Design and Development of EarTH



3. **Pilot Testing in Local Contexts and Classroom Integration - led by P6, P1, and P5:** P6 guided partners from M13 to M16 in developing in-class pilot tests, organizing multidisciplinary activities. P3 collected feedback to improve the educational offer and provided instructions for partners to redefine small-scale learning opportunities.

4. **IO2 - Learning Platform:** <https://formative-footprint.neurok.es/classroom/4524-earth-embracing-uncertainty-while-fighting-for-sustainable-development-option-2/topics>

Learning System for Circular Economy - coordinated by P4: a) A1.1 involved methodology establishment by P2 and P4. b) A1.2 Conducted workshops with local circular economy experts at each partner institution, discussing TPM 1-Romania selected topics. c) A1.3 Conducted in-class interviews with students to validate their interest and motivation. Curriculum design began based on received feedback, focusing on developing classroom materials and pilot testing activities. d) A1.4 P4 collected information, transformed results into challenges for use in A2, and created the project website, <https://earth.adi-software.com>, serving as the main platform for information dissemination.

a) A1.1 Platform design by P3, A1.2 Moodle LMS system development by P3.

b) A1.3 Adapted interdisciplinary learning materials to online learning after testing by P1, P5, and P6.

5. **TPM III in Romania - Learning/Teaching/ Training Activity led by P5:** Aimed to test the two IOs, preparing for the EarTH CHALLENGE International Competition.

6. **TPM IV - Preparation for the EarTH CHALLENGE International Competition and Multiplication Events in Partner Countries.**



7. EarTH CHALLENGE International Competition: Designed the competition, established rules and deadlines, types of challenges, award criteria, roles, and any information related to challenge design. 70 entries were received, and 40% were awarded. The challenge occurred simultaneously in Romania, Turkey, Greece, and Ireland, promoted online through social media and the Moodle LSM platform.

8. Multiplication Events in each partner institution: Winners of the EarTH CHALLENGE announced and awarded at the P1-LIIS multiplier event.

9. Sustainability Plan - EarTH CHALLENGE 2024 - led by P5: All partners proposed organizing the EarTH CHALLENGE 2024 and scheduling the EU EarTH Challenge for 2024. The competition

will take place on the project's learning platform, and partners aim to involve schools from other EU countries by promoting the competition on their institutions' pages and in local and international media.

10. Periodic Online Meetings for Project Monitoring and Evaluation: Seven online meetings with coordinators from each partner institution were conducted after significant project milestones throughout the two years.

11. Dissemination Activities: Periodic dissemination activities were carried out at each institution, and all these activities are published on the project's website under the dissemination section.

RESULTS:

EAARTH CURRICULUM

Among the key results is the promotion of sustainability skills and support for the Green Transition in line with the objectives of the European Green Deal. The project's curriculum targets educators and students aged between 12 and 19 and aligns with the European Qualifications Framework. It includes specific modules such as Sustainable Technology, Sustainable Fashion, Energy and Climate Change, and Circular Economy-Based Design.



The methodology used in the EarTH CURRICULUM is based on two key concepts. Firstly, constructive alignment involves the proper integration of teaching components, curriculum, and expected outcomes. Secondly, Pedagogy of Uncertainty aims to develop students' skills to cope with rapid changes, uncertainty, ambiguity, and complexity. Key principles include prerequisites, accepting and negotiating uncertainty in the learning process.

Each module of the EarTH CURRICULUM is elaborated in detail as follows:

1. The Sustainable Technology module focuses on raising awareness of the environmental impact of digital transition and promoting the use of digital technologies for sustainable development. Practical activities include interactive games and travel plans to encourage students to explore concrete ways to use technology to protect the environment.

2. The Sustainable Fashion module provides students with a comprehensive perspective on sustainable development in the fashion industry. Students learn about fast fashion, fashion models, and consumption trends, exploring the impact of the fashion industry on the environment and society. Practical activities include group discussions, school surveys, and creative projects.

3. The Energy and Climate Change module focuses on developing an understanding of the concept of energy and awareness of the impact of human activities on the environment. Students explore non-renewable and renewable energy sources, identify the causes of climate change, and understand their effects. Practical activities involve problem-solving related to climate change.

4. The Circular Economy-Based Design

module concentrates on the benefits of sustainability and key concepts of the circular economy. Students learn about sustainability, sustainable development, and the circular economy, with a focus on redesigning production and consumption processes. Practical activities encourage them to understand and adopt circular economy principles.

In conclusion, the EarTH CURRICULUM represents a comprehensive, structured initiative aimed at developing essential skills for students in the context of social and environmental changes, thus promoting a sustainable and responsible future.

The testing of EarTH CURRICULUM materials took place both in the classrooms of the two schools involved in the project (in Turkey and Romania) and at the organizational level in Greece and Ireland. A pilot test was then conducted at the two institutions. The pilot test results were interpreted, and the collected feedback was used to improve the curriculum. The pilot test was essential in preparing students for the international competition and adjusting the educational offerings of partner schools.

The EARTH Learning Platform has been developed and adapted for distance learning under the coordination of partner P3, undergoing various important stages. In the initial phase, P3 designed the learning platform and then developed it using the Moodle LMS system. Adapting to the challenges of online learning involved testing and adjusting interdisciplinary learning materials under the guidance of P1, P5, and P6, who assessed their effectiveness in the classroom. The platform was used in the LTTA in Greece and later in the international EarTH Challenge competition.

<https://formative-footprint.neurok.es/classroom/4524-earth-embracing-uncertainty-while-fighting-for-sustainable-development>



Sustainable Energy / CHALLENGE 4. HOW TO REDUCE ENERGY CONSUMPTION IN A VILLAGE?
Sustainable Energy / CHALLENGE 4. HOW TO REDUCE ENERGY CONSUMPTION IN A VILLAGE? "Welcome to the 'How to Reduce Energy Consumption in a Village' challenge! In this challenge you are invited to reflect on how we can reduce energy consumption in a village and promote more sustainable practices. Energy consumption has a significant impact on the environment and our wallets, and it is important that we find ways to reduce it. In this challenge you are challenged to find ways to promote the use of renewable energy, encourage energy-saving practices in homes and businesses, and raise awareness in the community about the importance of responsible consumption. Your goal is to demonstrate how we can work together to achieve a more sustainable future. Good luck and let's innovate!" 5. READING Non-renewable/Renewable energies Non-renewable energy comes from sources that will not be replenished in our lifetime or over many lifetimes. Fossil fuels...

Circular Design / CHALLENGE 3. HOW TO EXTEND THE LIFE OF HOUSEHOLD PRODUCTS?
Circular Design / CHALLENGE 3. HOW TO EXTEND THE LIFE OF HOUSEHOLD PRODUCTS? "Welcome to the 'How to Extend the Life of Household Products' challenge! In this challenge you are invited to think of ways to extend the lifespan of household products and reduce their environmental impact. Many products have a limited lifespan and end up in the trash after use, contributing to waste accumulation and the exploitation of natural resources. In this challenge you are challenged to find ways to extend the lifespan of products, whether through repair, recycling, reusing parts, or any other strategy. Your goal is to demonstrate how we can reduce our environmental impact and save money at the same time. Good luck and let's innovate!" 1. READING Sustainability Sustainability is a concept that emerged as a response to global warming and climate change caused by human-induced carbon dioxide emissions. Its main goal is to maintain the capacity to sustain a situation or process...

Sustainable Fashion / CHALLENGE 2. HOW TO MAKE MONEY WITH NON-USUAL FASHION?
Sustainable Fashion / CHALLENGE 2. HOW TO MAKE MONEY WITH NON-USUAL FASHION? "Welcome to the 'How to Make Money with Non-usual Fashion' challenge! In this challenge you are invited to explore creative ways to generate income from clothes they no longer use. Fashion is an industry that generates a lot of waste and has a significant impact on the environment. In this challenge you are challenged to find ways to reuse and recycle clothes instead of simply throwing them away, whether through online selling, exchanging with friends or family, donating to charitable organizations, or transforming them into new garments. Your goal is to demonstrate how we can give our clothes a second life and obtain economic benefits at the same time. Good luck and be creative!" 1. READING An introduction to sustainable fashion Environmental protection has become a global concern due to the potential risks of climate change. Sustainable development is crucial for protecting the...

Sustainable Technology / CHALLENGE 1. HOW TO REUSE TECHNOLOGY?
Sustainable Technology / CHALLENGE 1. HOW TO REUSE TECHNOLOGY? "Welcome to the 'How to Reuse Technology' challenge! In this challenge you are invited to reflect on how we can use technology in a more sustainable and responsible way. Throughout history, technology has been a key driver of human progress, but it has also generated waste and pollution that harm our environment. In this challenge you are challenged to find creative and practical ways to reuse technology and reduce its environmental impact, whether through recycling, repairing, using renewable energy, or any other strategy. Your goal is to demonstrate how we can use technology to move towards a more sustainable future. Good luck and let's innovate!" 1. READING The Benefits of Digital Transition for the protection of the Environment The global concern for environmental protection has increased due to climate change and excessive use and pollution of natural resources. Sustainable development is crucial for...

EarTH CIRCULAR ECONOMY LEARNING SYSTEM. General explanation
EarTH is an Erasmus+ Cooperation partnership project that put together 8 partners from 6 European Countries. EarTH stands for Embracing uncertainty while fighting for sustainable development. It aims to support schools in Europe to face the Green Transition while promoting a STEM subject and active pedagogies. In the frame of the project the following results have been developed: PPS: EarTH CIRCULAR ECONOMY LEARNING SYSTEM PPS; 2) EarTH LEARNING CHALLENGE Besides the educational developed resources the following intangible results are expected: a) Increase awareness for students about the challenges related to circular economy and how they can experiment their idea to provide sustainable solutions to promote CO2 savings, circular design of products and biodiversity; b) Increase awareness for students on how they can use school subject to actually work for sustainability and through data driven research also understand how they behaviours as citizens and consumers can...

The EarTH Challenge, an essential component of the project, was organized as an international competition initiated and designed by P1 and P3. The competition targeted students in grades IX-XII, organized in teams guided by teachers. The goal was to raise awareness among students about the importance of the circular economy and encourage them to find creative solutions to challenges related to resource usage.

The competition challenges included aspects such as the reuse of electrical and electronic products, the valorization of outdated clothing, extending the life of household products, and reducing energy consumption at the local level. The competition methodology included rules and deadlines for participation, evaluation criteria, and other information related to the design of learning challenges.

EarTH Project

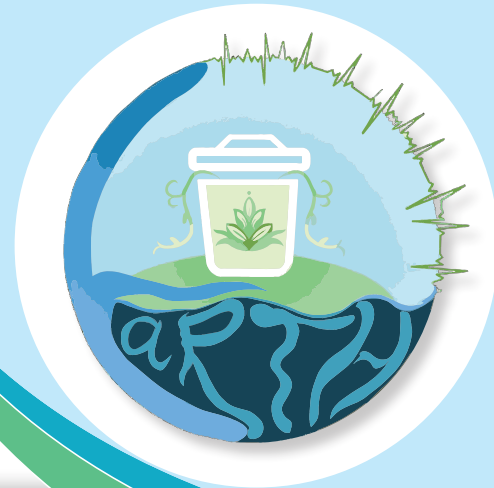
Embracing uncertainty while fighting for sustainable development

EarTH is a project that advocates for sustainable development. The project was born out of the need to support schools in Europe to cope with Green Transition, while promoting STEM subjects and active pedagogies.

More details can be consulted [here](#).



Erasmus+



Evaluation criteria included aspects such as introduction, problem analysis, proposed solution, implementation, benefits, and conclusions. Winners were announced at the P1-LIIS multiplier event.

The project website, created within the Erasmus+ project "Embracing uncertainty while fighting for sustainable development (EaRTH)" at <https://earth.adi-software.com/>, is dedicated to providing information about the activities

carried out within the project. The website includes a section dedicated to the administrator, allowing, based on a username and password, the modification of the site's design, addition/modification of information such as images and text. For this purpose, an intuitive and user-friendly text editor similar to Microsoft Word is used. Files such as images, videos, documents, etc., can be uploaded to the site.

PARTNERS:



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CONSORZIO COMUNITA' BRIANZA SOCIETA' COOPERATIVA SOCIALE - IMPRESA SOCIALE (Italy)



FORMATIVE FOOTPRINT (Spain)



THE REDISCOVERY CENTRE LTD (Ireland)



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SOGUTLU ESENTEPE ANADOLU LISESI (Turkey)



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