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Wi-Mi Project: Award Methodology for Community Science Projects (CSPs)

Project : Wi-Mi – OPEN: Wide Minds Will Find Eco-Virtual

STEAM Solutions Towards Climate Change
No: 2022-1-RO01-KA220-SCH-000084942

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1. Purpose and Vision

This methodology is designed to provide a practical, adaptable, and scalable model for organising school-based competitions focused on Community Science Projects (CSPs). While it was developed within the framework of the Wi-Mi Erasmus+ project, it is suitable for implementation in any educational setting across Europe and beyond. The approach promotes student engagement with real-world environmental challenges and encourages collaborative, interdisciplinary learning through the STEAM (Science, Technology, Engineering, Arts, and Mathematics) framework.

Promoting the fight against climate change at the community level is essential for achieving the goals of reducing its effects and building a sustainable future. Community initiatives, through their diversity and the direct involvement of students alongside community members, play a key role in this process. From awareness and education campaigns to concrete projects aimed at finding solutions to combat the effects of climate change, these actions make a significant contribution to creating more environmentally responsible communities. The success of such initiatives depends on collaboration between young people, citizens, local authorities, and non-governmental organizations.

CSPs aim to transform students into active agents of change by combining critical thinking, creativity, and scientific inquiry to address climate-related issues in their communities. The broader vision is to foster environmental awareness, social responsibility, and the skills necessary for students to become climate-conscious citizens.

2. Understanding Community Science Projects (CSPs)

A Community Science Project (CSP) is an educational activity where students investigate local or global environmental issues through hands-on research, creative exploration, and community collaboration. These projects are student-centred and inquiry-driven, allowing learners to take ownership of their ideas and actions.

CSPs are based on the following principles:

- Relevance: Students focus on real-life environmental problems that are observable and meaningful within their community or region.
- Inquiry: Students engage in research and experimentation to understand causes, effects, and solutions.
- STEAM Integration: Solutions are developed using knowledge and skills from science, technology, engineering, arts, and mathematics.
- Action: Students present feasible, innovative proposals and engage others in awareness or action campaigns.
- Communication: Findings are shared through presentations, exhibitions, or media to reach a wider audience.

For example, students might investigate water pollution in a nearby river, measure its impact on biodiversity, and propose a solution such as a school-led awareness campaign and a model filtration prototype using recycled materials.

By participating in STEAM and community-based science projects, children cultivate essential lifelong learning skills. Hands-on experiences that encourage

imagination, critical thinking, and collaboration empower students to better understand adaptation and resilience in the face of environmental challenges. These types of projects go beyond theory—students are invited to put knowledge into practice, strengthening their confidence and their role as future problem-solvers.

Activism rooted in STEAM education provides a powerful platform for young learners to engage meaningfully with climate change and sustainability topics. When environmental concerns are explored through interdisciplinary learning, the students gain the tools to innovate, communicate ideas clearly, and propose effective solutions. Environmental education initiatives, in this context, help students develop a sense of environmental stewardship and transform them into proactive advocates for a greener future.

3. Importance of CSPs in Climate Change Education

Climate change presents one of the most pressing challenges of our time, and education is a critical tool for empowering the next generation to understand, confront, and mitigate its effects. CSPs help bridge the gap between theory and action, offering a practical and transformative learning experience.

Key benefits of CSPs:

- ✓ Promote systems thinking and sustainability literacy.
- ✓ Foster empathy, agency, and resilience in the face of global challenges.
- ✓ Connect curriculum goals with real-world applications.
- ✓ Strengthen school-community links.

- ✓ Encourage long-term behavioural change.

Through CSPs, students learn that small actions—when guided by informed decision-making—can lead to substantial impact. They become confident in their ability to initiate change, not just in school but in society.

Community science projects, along with outdoor activities, play a key role in shaping children's environmental awareness and habits. Activities like planting native species, organizing clean-up days, or working on waste reduction efforts help young people form a stronger bond with their local environment. These interactions cultivate not only responsibility, but also empathy and a sense of agency—students begin to understand that they have the power to influence environmental outcomes through their everyday actions.

In essence, blending STEAM education with outdoor and community engagement equips students with the mindset and skills necessary for both academic success and active participation in building a sustainable future.

4. How CSPs Can Be Integrated in Any School

CSPs can be incorporated into formal education (as part of science or citizenship lessons), thematic interdisciplinary projects, or extracurricular programmes. They are suitable for students aged 10–14 but can be adapted for younger or older age groups.

Steps to implement CSPs:

1. Introduce the concept and explore climate-related challenges through multimedia and class discussions.

2. Facilitate brainstorming sessions to help students identify a problem relevant to their environment (e.g. waste, pollution, energy use).

3. Form diverse working groups of students with mixed abilities and interests.

4. Assign a mentor teacher to support each group with guidance, tools, and planning.

5. Guide students through research, experimentation, surveys, interviews or fieldwork, and design of solutions.

6. Support preparation for presentations, posters, or digital content such as videos, podcasts or online campaigns.

7. Celebrate results through a school-wide or community-based event, such as an Eco-Fair or project showcase.

Examples of project topics:

- Reducing single-use plastics in the school cafeteria.
- Designing green schoolyards or vertical gardens.
- Monitoring indoor air quality in classrooms.
- Promoting bicycle use and safe commuting.
- Reusing food waste through composting initiatives.
- Creating digital climate awareness campaigns for younger students.

5. Assessment and Recognition

To ensure motivation and reflection, schools can establish a basic award framework that recognises:

- Innovation and creativity.
- Scientific accuracy and use of data.
- Feasibility and relevance of the proposed solution.
- Collaboration and teamwork.
- Communication and presentation skills.

Recognition may include:

- Certificates for participation or distinction (digital or printed).

- Small symbolic prizes (recycled crafts, eco-badges, books).

- Showcasing projects at school events or online.

- Features in the school newsletter or local media.

Judging panels can include teachers, local experts, students or parent representatives. Teachers are encouraged to provide positive, constructive feedback, using rubrics tailored to age and project type.

A Community Science Project (CSP) participant can be evaluated using a structured framework based on six key criteria: climate change relevance, STEAM integration, innovation and creativity, impact and sustainability, teamwork and collaboration, and presentation and communication. Each project is assessed on a

1–5 scale for each criterion, with clear descriptors to ensure consistency and fairness. Judges consider how effectively the project identifies and addresses a climate issue, the integration of STEAM disciplines, the originality of the solution, its long-term viability, the quality of group work, and the clarity and persuasiveness of the presentation. This comprehensive evaluation method

encourages meaningful learning, active participation, and the development of real-world solutions to environmental challenges.

6. Wider Community Engagement and Visibility

CSPs offer an excellent opportunity for schools to engage families, local stakeholders, NGOs, or public authorities. Schools are encouraged to:

- Organise exhibitions, eco-fairs, or community forums where projects are displayed and discussed.
- Share progress via school websites, social media (Instagram, Facebook, TikTok), or local newspapers.
- Invite experts or mentors from environmental fields to participate in judging or mentoring.
- Collaborate with local green businesses, waste management services, or universities.

Teachers can also use the eTwinning platform to connect with other schools and promote joint initiatives.

7. Conclusion

This general methodology provides a flexible and inclusive structure for any school wishing to promote climate education through action-based learning. Community Science Projects encourage curiosity, responsibility, and leadership among students. When guided and supported, these projects have the power to spark change in classrooms, communities, and beyond.

This approach reflects the belief that education is not only about transferring knowledge but about building capacity to act. In doing so, CSPs prepare students not just to understand climate change, but to be part of the solution.

Schools are invited to adapt this methodology, brand it under their own initiatives, and spread its impact widely by sharing outcomes, resources, and success stories across networks and partnerships.

For additional resources and templates, schools can visit the official project website: https://wimiproject.eu

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Prepared within the Erasmus+ project Wi-Mi: OPEN – Wide Minds Will Find Eco-Virtual STEAM Solutions Towards Climate Change
Project Number: 2022-1-RO01-KA220-SCH-000084942

Partners:

- Scoala Gimnaziala Mihai Eminescu, Romania

- Avrasya Enstitüsü Araştırma ve Geliştirme Limited Şirketi,Turkey

- Education and Social Innovation Centre of Austria

- AGRUPAMENTO DE ESCOLAS DE BARCELOS, Portugal

- Osnovna Skola Glina, Croatia

- Osnovno Uchilishte Hristo Smirnenski, Bulgaria

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