

# Building and Sustaining Open Schooling Networks: Ensuring Long-term Impact of Collaborative Science Education

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The EU Horizon 2020 project MULTIPLIERS aims to improve science learning by fostering collaboration among students, schools, families, local communities, civil society organizations, informal learning providers, universities, the media, policymakers, and industry. To achieve this, the project transformed educational settings into innovative Open Schooling Communities (OSCs). MULTIPLIERS has established OSCs across six EU countries, promoting partnerships between schools, society, and scientific institutions. These networks have successfully addressed socio-scientific issues and increased student engagement with science.

As the project advances, sustaining these networks long-term is now a priority. This policy brief highlights key strategies for policymakers and educators to maintain and expand open schooling initiatives. Based on extensive research and collaboration, MULTIPLIERS developed a sustainability model offering a roadmap for

creating engaging, relevant, and lasting open schooling experiences, contributing to a more scientifically literate society.

The MULTIPLIERS project has demonstrated the effectiveness of Open Schooling Communities in addressing socio-scientific issues and enhancing student engagement with science. These networks provide authentic learning experiences, improve science literacy, and foster critical thinking skills. Sustaining such networks is essential for the continuous improvement of science education, long-term community engagement in scientific issues, and nurturing future generations of scientists and informed citizens.

To address the challenge of long-term viability, MULTIPLIERS has developed the “5 Co”-Model, a comprehensive framework that identifies five key factors crucial for the sustainability of open schooling networks:

- 1. Communication:** Establishing clear channels for information sharing. This encompasses a range of strategies and interactions designed to foster engagement, collaboration, and inclusivity among all stakeholders involved in the project and beyond.
- 2. Coordination:** Ensuring effective management of partnerships and resources. In addition to formal organization, the composition of the network and the different needs of the individual partners have to be considered to foster strong partnerships.
- 3. Cooperation:** Enhancing collective impact through structured operations, effective mapping, and strategic collaboration. This involves mutual support and shared responsibilities of partners.
- 4. Costs:** Addressing financial sustainability through various funding mechanisms. This comprises both external financial support and internal funding opportunities.
- 5. Collection of Materials:** Developing and maintaining a repository of resources and best practices. This includes providing accessible, relevant, and customizable educational materials, along with ongoing support for educators.



This model provides a structured approach to building resilient and effective open schooling networks. By focusing on these five areas, Open Schooling Communities can create a strong foundation for long-term success and impact.

The benefits of implementing this sustainability model are numerous. For students, it ensures continued access to engaging, real-world science experiences that enhance their learning and career aspirations. Educators benefit from ongoing professional development and support in delivering innovative science education. Communities gain from increased scientific literacy and engagement with local issues. Researchers benefit from enhanced science communication, broader impact and societal contribution and opportunities for developing the next generation of scientists. Policymakers can leverage these networks to address societal challenges and promote evidence-based decision-making.

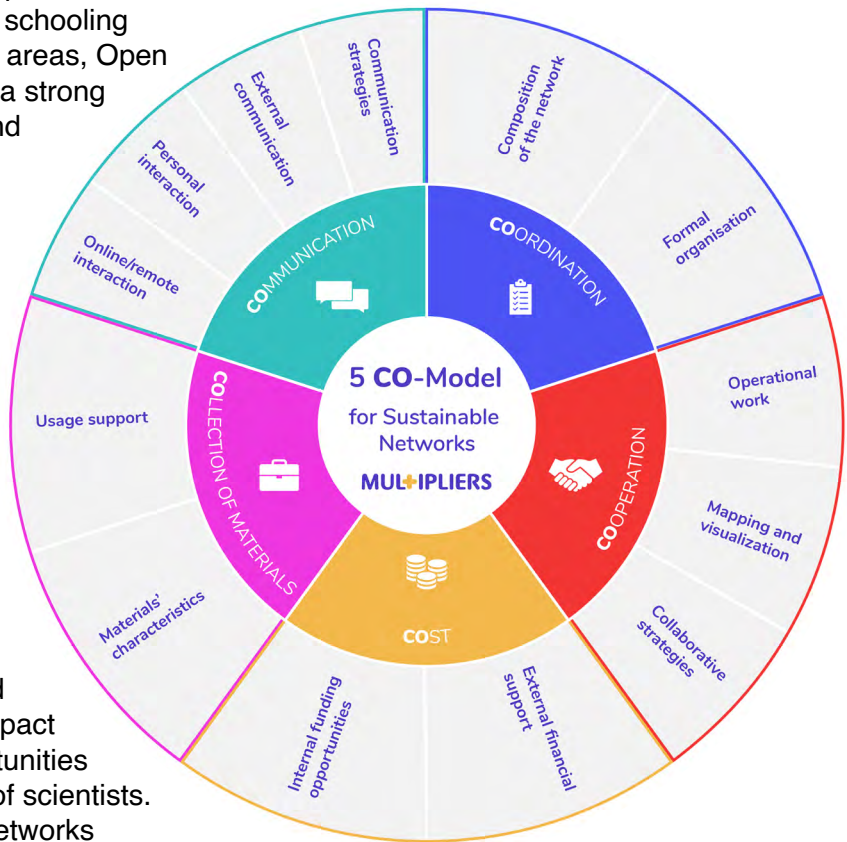


Figure 1: The “5 Co” Sustainability Model

## Key Insights from the MULTIPLIERS “5 Co”-Model for Sustainable Networks

1. **Communication:** Engage regularly with network members through diverse activities to keep everyone informed. Use clear, appropriate language for different stakeholders to ensure effective communication.
2. **Coordination:** Promote diversity and establish local partnerships to leverage community insights, aligning the project with local needs. Implement clear management structures and develop a strategic plan aligned with national education goals.
3. **Collaboration:** Encourage active participation through transparency and defined roles. Cultivate a culture of peer feedback and involve all stakeholders—students, teachers, parents, industry partners, and policymakers—in decision-making. Include experts, such as those in science education, to help bridge gaps and enhance the collaborative effort.
4. **Costs:** Secure financial stability by using varied funding strategies, including public-private partnerships and grants, to support the network’s sustainability.
5. **Collection of Materials:** Ensure easy access to educational materials and provide ongoing teacher training to equip educators with the skills to effectively utilise and adapt these resources.

## Key Recommendations for Policymakers

To support the establishment and the sustainability of open schooling networks, policymakers should consider the following actions:

- **Establish dedicated funding streams:** Create specific funding mechanisms to support the ongoing operations of open schooling networks. This includes grants for educational outreach and professional development.
- **Develop supportive policies:** Encourage research institutions and industries to collaborate with schools by providing frameworks that promote resource allocation for these initiatives.
- **Encourage cross-sector collaboration:** Create spaces where scientists, educators, and policymakers can meet, exchange ideas, and develop new approaches to science education.
- **Recognise and reward participation:** Establish incentives for schools, teachers, and partners who actively engage in open schooling initiatives.
- **Align school curricula with the needs of modern science education:** Integrate contemporary scientific challenges (e.g., climate change, health issues) into educational programs and ensure that students engage in hands-on, real-world science education.
- **Promote professional development:** Provide continuous training for educators enabling them to effectively deliver innovative science education in collaboration with researchers.
- **Support digital infrastructure:** Invest in platforms and tools that enable efficient communication and resource development and sharing among open schooling networks and facilitate remote collaboration between schools and research institutions.

## Conclusion

The sustainability of open schooling networks is crucial for the long-term transformation of science education and societal engagement with scientific issues. The “5 Co”-model developed through the MULTIPLIERS project provides a comprehensive framework for ensuring the longevity and effectiveness of Open Schooling Communities. By focusing on Communication, Coordination, Cooperation, Costs, and Collection of Materials, stakeholders can build resilient networks that continue to thrive beyond initial funding periods.

Policymakers play a vital role in creating a fertile environment for these initiatives to flourish. By establishing dedicated funding streams, and developing supportive policies, they can lay the groundwork for sustainable science education transformation. Educators and community partners, must be supported in implementing open schooling, fostering a culture of collaboration and continuous improvement.

As we look to the future of science education, the lessons learned from the MULTIPLIERS project and the implementation of the “5 Co”-Model offer a roadmap for creating engaging, relevant, and sustainable open schooling experiences. By investing in these networks, we invest in a more scientifically literate, critically thinking, and engaged citizenry, better equipped to address the complex challenges of our time.

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