

# THE EXPERIENCE OF PA-MAP PROJECT: AN INFORMATION PATH IN PRIMARY SCHOOLS TO RAISE COMMUNITY AWARENESS ABOUT AIR POLLUTION

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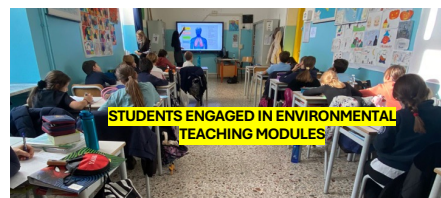
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**BACKGROUND AND PURPOSE:** Scientific evidence regarding the health effects of air pollution necessitates urgent and effective actions to protect the most vulnerable segments of the population, such as children and the elderly. The participatory approach is a viable option to empower citizens, increasing their awareness and the involvement of civil society is an essential ally in addressing research challenges to achieve urban sustainability. This poster presents the research results obtained within the framework of the third mission of the European project PA-MAP (Participatory Approach to Monitoring Air Quality in Urban Environments). PA-MAP has four main objectives: to monitor air pollution with mobile and real-time sensors and to promote environmental education and sustainable mobility in European schools. This contribution details the activities conducted in several elementary schools in three European cities: Turin, Contursi Terme, and Barcelona. PA-MAP has integrated institutional training programs with real-world issues such as mobility, air quality, and urban regeneration. In each school, interdisciplinary lessons and practical activities were carried out, involving children, parents, and teachers. Some activities were extended to the community and local administrations promoting 5 of the global goals proposed by the UN Agenda 2030.

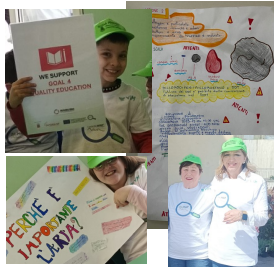


STUDENTS ENGAGED IN ENVIRONMENTAL TEACHING MODULES



**METHOD:** Theoretical lessons and practical teaching activities were developed, involving 200 students aged 9 and 10 from the Istituto Comprensivo Statale Italiano Montessori, Sarrà-Barcelona (Spain), the Vincenzo Lardo elementary school at the Istituto Comprensivo Statale Italiano in Contursi Terme (Italy). Teaching activities and workshops were conducted in each school with the support of teachers and local administrations. Groups of students participated in a collaborative and co-creative scientific program, implementing concrete actions to promote sustainable behaviors at a local level. Each school developed an "action for change" and all schools participated in the writing of a story that will be published in a children's book. The method and model of intervention adopted by PA-MAP in these schools was defined as ORPAC: "Observation, reflection, planning, action and change". The ORPAC method has proven effective in engaging young students and their families in sustainability efforts. Its structured approach—spanning observation through to action and change—facilitates comprehensive learning and real-world application. By integrating theoretical lessons with practical activities, the method fosters a deep understanding of environmental issues and encourages active participation in solutions. Future implementations could benefit from refining the feedback mechanisms within the method to ensure continuous improvement and greater impact.

## PA-MAP: ORPAC METHODOLOGY



**CONCLUSIONS:** Through the ORPAC method (Observation, Reflection, Programming, Action, and Change) promoted by PA-MAP, the children have significantly increased their awareness, actively contributing to the promotion of sustainable solutions alongside their families. They have engaged in a co-creative process aimed at enhancing urban space quality and air quality. The involvement of children in environmental projects not only enhances their awareness but also equips them with skills essential for addressing future environmental challenges. The success of this approach highlights the need for scaling similar initiatives across educational institutions to broaden their impact. Additionally, ongoing collaboration with local administrations and community members is essential for sustaining these efforts and ensuring that the strategies developed are effectively implemented and adapted to local needs. **Policy Integration:** The active engagement of residents in environmental initiatives underscores the importance of incorporating community feedback into policy development. This approach aligns with the principles of participatory governance and supports the creation of policies that are both practical and reflective of community priorities. For long-term success, it is crucial to maintain this participatory framework, ensuring that local insights continue to inform and shape sustainable development strategies. The public participation and awareness-raising efforts regarding air quality involve active local research and a responsive approach to the contributions of city residents. This integration of community input is crucial for developing targeted strategies and policies to achieve the sustainability goals outlined in the United Nations Agenda 2030.

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**RESULTS:** All students used the teaching material to write a story about air pollution and climate change. Each group of students participated in a shared workshop, writing a chapter of a story using the local language. In addition to this common activity, each school promoted an action for change on a local scale, involving the students' families and the local community in several urban teaching workshops (L).

### (L1) COOPERATIVE EDUCATIONAL WORKSHOP: STORY WRITING

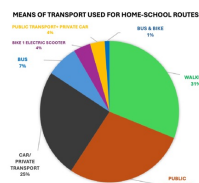


### L2: SCHOOL YARD GREENING (CONTURSI TERME)

The students of Vincenzo Lardo Elementary School in Contursi Terme collaboratively designed the school garden, involving families and the local administration in the revitalization of the school's outdoor spaces. This initiative is crucial as it fosters a sense of community and shared responsibility among participants while offering practical experience in environmental stewardship. Integrating such projects into the school curriculum enhances students' understanding of sustainable practices and biodiversity. Furthermore, the involvement of families and local authorities highlights the importance of community engagement in educational settings, reinforcing the value of collaborative efforts in achieving long-term environmental sustainability goals.



### L3: WHAT MEANS OF TRANSPORT DO YOU USE TO GO TO SCHOOL? (BARCELONA)



The 10-year-old students of the Istituto Comprensivo Statale Italiano Montessori di Sarrà conducted an exploratory survey to investigate the modes of transportation used by their family for daily commute between home and school. This survey facilitated the collection of both quantitative and qualitative data, which are crucial for understanding the mobility habits of the students and identifying potential issues related to the sustainability and safety of their daily commute. The findings of this survey can be used to develop targeted interventions aimed at promoting more sustainable transportation methods, such as carpooling, cycling, or public transportation, while also raising awareness within the school community about the importance of eco-friendly practices.

Moreover, these data provide an empirical foundation for collaborating with local administrations in the planning of infrastructure that supports sustainable mobility. The survey results revealed that the majority of students are taken to school by public transport or on foot. However, a significant percentage of families still rely on cars. This dependence on cars highlights the need for initiatives to encourage more sustainable and environmentally friendly transportation options.

