



MATER - Pianeta Terra-Mare: an interactive and multidisciplinary approach to Geosphere sciences

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Recent studies demonstrate that Earth and Marine Sciences are not properly treated in scholastic programs and in textbooks are included in a superficial way. These topics are interdisciplinary and experimental (biology, ecology, oceanography and geology) and the recent advance in these fields is strictly linked to technologic improvement. School cannot keep up with the huge advances of knowledge experimented in the last 20 years, also for the lack of didactic laboratories sufficiently updated to support experimental activities. In this context, in 2014-15 three Italian Research Institutes (INGV, ISMAR-CNR and ENEA-CRAM) have decided to support the Unified School District "ISA 10" of Lerici (Liguria, Italy) - comprehensive of kindergartner, primary and middle schools - to develop the project MATER - Pianeta Terra-Mare (Planet Earth and Sea). The acronym MATER (MARE and TERra) has also a gender value, as people involved in the projects were women, mostly researchers and teachers, which have worked side by side with other women belonging to environmental and cultural associations of the territory. This heterogeneous group has a common objective: to promote the diffusion of a scientific culture and to sensitize students from 3 to 14 years towards problems occurring in marine and terrestrial environments, fostering the settlement of a sustainable attitude to the exploitation of natural resources and consciousness to natural hazards, such as earthquakes and floods, quite common in the Ligurian region. MATER has been considered as one of the best projects funded by MIUR (Italian Ministry of Education, University and Research) inside the Dissemination of Scientific and Technological Culture call for the year 2014. Natural hazards (Planet Earth) and the chemical-physical aspects and resources of the marine environment (Planet Sea) were the two modules of the project. Planet Earth developed through Piovono Idee! (Cloudy with a chance of Ideas!), an interactive exhibition on hydro-geological risk and climate change targeted to students from 8 to 14 years; Planet Sea was articulated in a series of laboratories on the physical-chemical properties ("a sustaining sea") and of the bio-ecological aspects ("a sea of resources") of the sea, engaging students from 4 to 14 years. Scientific conferences, targeted from teenagers and up and open to public, have been organized during the opening and closing weeks of the project, inside the "Week of Planet Earth" 2014 and 2015. The project was also a "peer-education experiment", where students of the High School "Pacinotti" (La Spezia) and of "ISA 10" (Lerici) and "ISA 2" (La Spezia) have played the role of guides in the interactive paths. MATER has reached ca. 1000 students and had excellent feedbacks from teachers and students, supported by questionnaires and press releases. Through the dedicated website, MATER is expected to reach a broader scholastic community, outside its local context. The project was a good example of cooperation of different territorial institutions/associations, working together to promote the culture of prevention and sustainability, involving future citizens to reflect on the values of appropriate behaviors and best practices towards an ethical and sustainable interaction between human activities with the geosphere.