Promoting Scientific Literacy through Meteorology – concepts and experiments

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Although school children have a strong interest in all questions dealing with Earth and Earth Sciences, when Physics concepts are concerned the difficulties arise. An initiative to introduce Meteorology to little children at kindergartens and primary schools has been undertaken in Portugal within the framework of teaching general knowledge, in order to increment Scientific Literacy.

The project aims at encouraging the development of experimental activities related with key concepts in Physics with children at a very early age. These exploratory activities, firmly rooted in a process-oriented approach, will follow the curricula defined for each school grade in the area of the Earth Sciences, with the purpose of introducing and consolidating primary scientific concepts and developing children's natural interest and curiosity in studying natural phenomena and diverse atmospheric processes.

Children are encouraged to carry out simple experiments, to collect, analyze and interpret meteorological data, to describe observations and draw their own conclusions with the major goal of achieving an early understanding of basic scientific principles. Therefore conceptual knowledge is accomplished through a playful approach to scientific research methods while other fundamental skills such as responsibility, autonomy, communication and the use of Communication and Information Technologies (CIT) are stimulated in young learners in a school context.

In order to accomplish these goals, coordination between scientists and educators is fundamental. Additionally, training of teachers and educators in Earth Sciences is performed, focusing on Meteorology topics, thus maintaining a permanent link between school teachers and scientists. The project also intends to give advisory help to schools and teachers and to extend existing teaching programs. It also aims at enhancing interest in scientific questions and studies and offers insights to scientific professions. Finally different kind of educational material is developed cooperatively with teachers, differentiated for the different school grades, in order to meet genuine educational needs.