**Expedition to the South Pole: a role play for pupils**

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**Motivation**

The idea to communicate and to share the experience of the scientific research in Antarctica with the public and with the school is a challenge that a team of INGV researchers, engaged for many years in scientific missions in Antarctica, carries on with great enthusiasm within the several outreach activities of the Italian National Program for Antarctic Research (PNRA).

The present work reports the experience of the outreach laboratory “Expedition to the South Pole”, realized in the frame of events organized by INGV and dedicated to the primary school (8-11 years).

The educational themes developed within the laboratory concern the research in Antarctica, with particular focus on the human aspects, the geophysics and the progress of new technologies. The innovative aspect of the laboratory stands in the strategy to deal with Antarctica with an educational aim, proposing Antarctica as a natural laboratory, not only from a scientific point of view, but also as a laboratory of human experiences sharing.

1. **The roles played**

   - **Scout**
   - **Scientist**
   - **Station Leader**
   - **Air traffic Controller**
   - **Doctor**
   - **Technician**
   - **Cook**
   - **Pilot/Driver**

In the preparation phase the children acquire the basic knowledge of the Antarctic continent and of the roles of the personnel, enabling the scientific stations operations.

The researchers introduce the educational contents that concern: the main geographical aspects and the difference with respect to the Arctic, the fauna, the extreme climatic conditions, the seasons, the geopolitical aspects and the scientific researches. Some additional detailed information are provided to enable the role-play.

A part of this phase is dedicated to the exploration of the human and social aspects that characterize the organization of the life in the Antarctic stations and the cohabitation into extreme environments over long periods. During that activity the researchers, taking advantage of their own experience, stimulate the children curiosity involving them into the mimed experience.

In this context, the researchers introduce the fundamental roles to effectively run an Antarctic base: Station Leader, Scientist, Air traffic Controller, Technician, Scout, Doctor, Cook and Pilot/Driver.

2. **The life in the base and the scientific missions**

   During the simulation of the outdoor missions, the children play the following scientists roles:
   - the meteorologists, by means of the balloons launch, learn to measure the wind velocity and the temperatures;
   - the physicists learn how to observe and recognise the characteristics of the auroras;
   - the biologists observe the penguins colonies and learn to recognise the characteristics of the different races;
   - the geologists observe the icebergs and learn to recognise their different morphology.

   All the other roles (Station Leader, Air traffic Controller, Scout, Pilot/Driver Technician, Doctor, Cook) are involved in the missions to support, with different tasks, the correct run of the researches.

   In this phase the actual role-play game starts.

   The atmosphere of the life in the base is reproduced in the classroom: the principal screen displays the photo of the Italian Antarctic bases, some signboards identify the sites of each role (Station Leader, Air traffic Controller, Technician, Scout, Doctor, Cook and Pilot/Driver), other screens display images recalling the outdoor missions.

   This experience represents an occasion of intense emotional sharing generated by the questions of the pupils to the researchers.

3. **The teleconference with Antarctica**

   At the end of the laboratory the children pass from the virtual experience of the role-play that simulates the South pole expedition, to the actual contact via teleconference with the researchers hosted by the Antarctic station of Concordia (the Italian-French winter-over Station).

   The laboratory is realized by role playing methodology. Kids play the roles with the goal to acquire the knowledge on Antarctica, to explore its characteristics, to experiment an emotional education through individual and team experiences.

   A synthesis of the experience has been translated into a video with a twofold aim: to demonstrate the positive response of the pupils to the proposed activities and as a tutorial for teachers that want to include the Antarctic themes in their lessons through an original approach.

   The video, in fact, shows the result of the experiences proposed and the effectiveness of the role-playing technique to educate the new generations about the different meanings of the scientific activities in Antarctica.

   We are convinced that the experimentation of the proposed methodologies will constitute the base to put in place educational paths on polar sciences and that, through an active collaboration between researchers, teachers and children, will be possible to structure such paths as projects integrated in the curricular programs of the primary school.

4. **Conclusion**

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