Design Thinking for Education, community development and a better Earth

Priscila Doran and José Saraiva
NUCLIO - Núcleo Interactivo de Astronomia, Research & Development, Portugal (priscila@nuclio.pt)

Communities worldwide are facing challenges related to global environmental problems that impact our planets' Hydrosphere, Atmosphere and Biosphere such as climate change, ocean pollution, loss of biodiversity, among others. Bringing awareness about such problems and their solutions can be a powerful way of promoting community development and reducing the environmental, social and economic impact of such problems at a local level.

Islands Diversity for Science Education (IDiverSE) was an educative project (co-funded by the Erasmus+ program) that aimed at promoting collaboration between students (K-12) from different countries (with special focus on islands) in the creation of solutions to local and global problems. It involved students from Portugal, Spain and Greece.

The project led the students through the four phases of the Design Thinking method where they Felt the problem and how their communities related toward it, Imagined solutions and possible ways of implementing them in their community, Created ways of implementing such solutions and increasing awareness in their community and Shared their creations and their solutions with the community. The key in the whole process was the involvement of the community and the focus on community awareness and development.

IDiverSE students focused on the following problems: endangered pollinator species, namely bees; plastic pollution in the ocean and beaches; UV radiation and its implications for human physical and psychological health. Related to these, several outputs where created and shared with the communities. Students appeared on local TV channels, sharing their work and findings with the community; one class presented their work in the form of art pieces made with the plastics they collected from the beach and created an exhibit in a public gallery; one class from a primary school went to share solutions with the city hall related to the pollution around the school and noticed a major decrease in the pollution afterwards; several classes from one school joined efforts in creating a science trail around the school, to share different local problems and their solutions with their community, etc.

In conclusion, it was evident that the project brought a relevant increase in the awareness of the students, which reported to have changed their perception and behaviour towards the problems in study. These students have worked hard to bring awareness about these problems to their community and to be part of the solution. Earth is our home and IDiverSE brought students a sense of responsibility to take care of their home.