Can high school students contribute effectively to a real scientific EO project?

We present the results of a bet we did almost 2 years ago. () This bet started when, in 2016, the Italian Government promulgated a new education law, which established the “Alternanza scuola-lavoro”. It includes a minimum of 200 hours of stage for high school students from the 3rd to the 5th year. The majority of these stages consists only in a simulation of work or a formation. ()

We took a chance to test if high school students could contribute effectively to a real project. At the Institute for Atmospheric Sciences and Climate of the Italian National Research Council, we were starting a EUMETSAT funded study to develop a Bayesian sea-ice-cloud classification algorithm for Sentinel 3 SLSTR instrument. () We identified few tasks that could be carried out with the level of knowledge a high school student is expected to have.

First, we were asked to organize about 150 relevant scientific documents () and to produce excel tables summarizing the information used for cloud-sea ice detection from previous studies.

Secondly, we contributed to create a dataset of case studies for the validation of the devèloped algorithm. () In order to do that, we learnt how to access to Earth Observation data from the Copernicus database () and we familiarized with the Sentinel Application Platform (SNAP) to analyse and document the selected satellite data. ()

It wouldn’t be fair to say there weren’t difficulties we had to overcome, so what I can tell is that we sometimes missed deadlines or we forgot how to follow the instructions or even we were not able to use something we were supposed to know well, being “Digital Natives”.()

To conclude, we didn’t lose our bet. The students’ contributions were included in the documentation required by project. We improved some skills, such as how to use properly the software we needed, and we acquired new ones, such as how to manage issues, how to write a report and how to work in team. Despite what most of high school student thinks of Alternanza scuola-lavoro, this experience gave us a lot: we learnt how to behave in the unknown world of work and how to be part of it.

Slide

Prima

Alternanza

Tasks

Tools

Job organisation

Problems

Everything has been done thanks to not only a standard formation but also a peer-to-peer one. The job has been organised in activities in the lab and remote activities, to allow a quicker result in a big city such as Rome.