

Seeds of OSOS

During the last consortium meeting in Israel, a new strategy was adopted in order to involve and engage partners. Following the principles of open schooling, the consortium was invited to visit the pilot schools on site and have live reports of the seeds of OSOS in the field.



Figure 1 Talia Bernad, An OSOS teacher from Kiryat-Malachi, Israel, presenting her students' work

The journey began with a series of meetings with students and teachers of five of the schools joining the project, where they had the opportunity to describe the whole process they were involved in. Starting from FEEL, one of the OSOS steps for the design of the project, they described how the decision process was developed during the research within their own communities. Teachers supported the presentation of the IMAGINE step, where some amazing ideas were presented in order to target the specific topics

encountered by the young designers. Next, the third step, DO, was shared with us, and finally the stage of SHARE



Figure 3 Students from an OSOS school in Ra'anana, Israel, presenting their project

was carefully described and presented with a high level of excitement and inspiration. The

active involvement of the students was clear. It was their contribution to their local community and they were all very proud of their achievements.



Figure 2 Students from an OSOS school in Haifa, Israel, presenting their project

During the second day the journey of the participants continued. This time the OSOS team went to visit schools in different parts of the country. The day reserved a series of surprises while we visited two schools and an environmental centre in the north of the country.

These institutions participate in OSOS, and although a bit different in nature and/or approach, they all convey the spirit of the project. They are fine examples of the



Figure 4 ORT Greenberg High School in Kiryat-Tivon, Israel

open schooling principles, where students develop their ideas having in mind problems they have identified within their communities.



Figure 5 Visiting the maker's space

In the first school, [ORT Greenberg High School](#), situated in Kiryat-Tivon, teachers and students presented us several examples of entrepreneurship projects related to health care, civil protection, and well-being, such as smart casts that keep a member stable and assure the normal circulation of the fluids in the body, the watch of forests to control wild fires, intelligent electric bikes that can only be switched on if the user puts on the helmet, and dog collars that tell the pet not to jump on the sofa, just to name a few. Students typically devote six to eight hours per week of their free time to develop their projects. The school also offers maker spaces open to the community. These are rooms equipped with all the tools necessary to put ideas into practice, whether someone wants to build a gadget or to develop software for a specific task.

Maker spaces are used by the students during the day, and after 6 p.m. any member of the community is invited to come in and use them to implement their ideas, either by themselves or in collaboration with the students. Whenever necessary, the school promotes workshops on how to use specific soft and hard tools. The maker spaces are supported by ORT Israel and the government. They are one of the best examples we have identified so far on how a school can effectively become an open science and technology R&D hub, and a reference to the community. Definitely an example to be followed and replicated by all other OSOS schools within all participating countries.



Figure 6 Presentation of the vision of the Maker's space



Figure 7 High School students at the Volcani Centre for agricultural research

Next, we visited Volcani Centre, the Israeli Agricultural Research Organization. There, with the assistance of a Ph.D student, students from [ORT Ben-Gurion Secondary School in Afula](#) apply precision agriculture to analyse the growth and development of vegetal species with the help of drones equipped with infrared and visible cameras. This way they can easily identify spots of disease, for instance,

and promptly act to apply adequate and efficient measures to fight them. One of their goals is to raise awareness amongst farmers on how new technologies can make their job easier, a task of great relevance but which is not easy to carry on.

A farmer was invited to share with us how important this project is from his point of view and how it can greatly contribute to the sustainable development of his efforts. The earth covering his boots and the sincere comments he carefully read to us, in English, provided a first-hand impression on the real impact of such a project. It was not a group of proud parents phrasing their children, it was members of the community narrating improvements in their daily lives.

Finally, we visited [ORT Yonatan Junior High](#), a school devoted to inspire students in the development of R&D



Figure 8 Ilan Ladell, a farmer from Kibbutz Ein-Harod Ihud, Israel, sharing his view on the importance of OSOS for the community



Figure 9 Prof. Gersimos installing the first seismograph in the ORT Yonatan Junior High

projects related to arts and science. They have promoted a space hackathon, where students were faced with the hypothetical event of a meteor hitting the planet and were asked to come up with solutions within a limited time. The school is also actively involved in the Schools Study Earthquakes programme, and visitors had the opportunity to observe Prof. Gerasimos Chouliaras install the school first seismograph that will permanently listen to the vibrations of the crust, helping to detect earthquake with magnitudes above 4, and sharing the data to a worldwide community of students and enthusiasts. The school is now part of a larger

network of schools with similar devices in Greece, Italy, Cyprus and Israel.

In the two schools and in the agricultural research centre, students were given the opportunity to present their projects with their own words. This end up being an inspirational day, where all partners got the feeling Israel is on the right track when it comes to fulfil the goals of the project and with what is related to innovative models for learning.



Figure 10 Students presenting their projects

During the 3rd day of the consortium meeting, we had the opportunity to visit the Bloomfield Science Museum. In the words of its director, Maya Halevy, the museum has not only the



Figure 11 OSOS consortium team at the Bloomfield Science Museum

mission of increasing the science literacy of its visitors, but also to promote live experiences gathering participants from different nations, creed or beliefs in a true global citizenship awareness programme. The team behind the production of the exhibits is very creative, and we had the opportunity to visit one of the exhibits, as well as the workshops where everything is put together and comes to life. The project milestones and future steps were reviewed,

and all of us went back to our homes with a sense of accomplishment, but above all inspiration for what still needs to be done.

Thank you Israel for such an amazing experience!