

SCHOOLS
AS LIVING
LABS

SALL



PORTFOLIO OF SCHOOLS AS LIVING LABS PROJECTS

In primary, secondary and high schools across Europe



WONDERLAB

Creating a school garden of tea herbs



SERBIA STUDENTS AGED FROM 8 TO 12 BIOLOGY HEALTH PLANTS SUSTAINABLE GROWING

THE SCHOOL

- OŠ “Petar Kočić” primary school
- Rural area
- Flexible model of organizing educational processes
- Large outdoor space

Familiarity with the open schooling approach before joining the SALL project

Beginner

Experienced

AHA MOMENTS

Shared by teachers: “These are not the same children as they were when we started the project. Now, they are used to seeing people from the local community coming to the classroom and are really proud to show them around.”

By students: “It is our garden. We have many plans for it.”

By societal actors: “We are not sure how much children will be able to make on their own, but our task is to support them as much as we can”

THE LIVING LAB PROJECT



THE PROBLEM(S)

- Food waste
- Lack of knowledge among children about herbs
- Limited time children spend outdoors



THE COMMUNITY

- Local grocery store chain and restaurant provided food waste
- A doctor from the Public Health Institute organised a workshop about the health benefits of different herbs.
- Members from local NGO organised two workshops for creating embroidery packaging for the tea.
- Families provided food waste



THE SOLUTION

- Produce local herbal tea, using the school outdoor spaces



THE PROTOTYPES

- A school garden of tea herbs
- A calendar to follow the time for planting and picking herbs
- A composter
- An open classroom with a solar-drying machine for the herbs
- Ecological tea packages with illustrations and information on health



The SALL project has received funding from the European Union’s Horizon 2020 Framework Programme for Research and Innovation under grant agreement No. 871794.

MUSSEL RESEARCHERS

Carring local food production on



GREECE STUDENTS AGED FROM 10 TO 13 FOOD PRODUCTION ENVIRONMENT

THE SCHOOL

- Primary school of Makrygialos
- Rural area, community depending on mussels farm
- Familiar with the implementation of both school and European programs

Familiarity with the open schooling approach before joining the SALL project

Beginner

Experienced

AHA MOMENTS

Shared by teacher and local community: The teacher who oversees the project is really excited with the response that the students have had. Furthermore, the local community has embraced the action seeing that it is a matter that concerns them directly and supports the children in all efforts.

By school leader: The school manager supports the action despite the lack of experience, and he is using both the resources available in the school and his personal contacts to contribute to the project.

THE LIVING LAB PROJECT



THE PROBLEM(S)

Mussel farms and climate change are affecting the local ecosystem. The living lab project aims to make students and the local community understand that the environment is inextricably linked to the lives and well-being of residents. By protecting the environment and following the proper process in mussel farming, mussel growers will continue to exist as a profession and help alleviate the climate crisis.



THE COMMUNITY

- Ph.D. candidate in oceanography provided science and research content
- Local mussel farmers' cooperative opened the stages of breeding mussels
- Environmental organisation informed the school about marine ecosystems



THE SOLUTION

- Raise local inhabitants' awareness of environmental issues



THE PROTOTYPES

- A posters campaign
- A questionnaire to determine what local people know and think about the topic
- A "Mussel- day" to show the local community the work done and clean the coast



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EATING HABITS

Analysis students' eating behaviours



SPAIN STUDENTS AGED FROM 14 TO 15 EATING HABITS HEALTHY BEHAVIOUR NUTRITION

THE SCHOOL

- Jesús-María Ikastetxea secondary school
- Concerted school in large town
- Little experience but strongly motivated in testing new pedagogical approaches

Familiarity with the open schooling approach before joining the SALL project

Beginner

Experienced

AHA MOMENTS

Shared by teachers: Teachers observed that collaboration with local stakeholders makes students more empowered and motivated, which has a significant impact on their learning.

Shared by students:

- "It's interesting because we are working on problems that are close to us and that we know well"
- "It's more interesting than learning from a book"
- "I liked being able to create a solution with my knowledge"

THE LIVING LAB PROJECT



THE PROBLEM(S)

The students behind this living lab project started by discussing their eating habits and their misconceptions about food. They then decided to promote healthier eating habits among their local community and particularly to find solutions for reducing the amount of sugar intake when consuming breakfast, lunch and snacks.



THE COMMUNITY

- A team of nutritionists provided expertise and knowledge
- The school canteen staff collaborated in the development of healthy menus



THE SOLUTIONS

- Assess the amount of sugars taken and analysing the health consequences of a high sugar level diet
- Produce healthy food alternatives
- Share the results of the research with the community and involve them in the development of healthy alternatives



THE PROTOTYPES

- A research protocol with an online questionnaire
- An informative website with the results of the study and useful information on food and health
- A set of healthy menus



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MENU OSASUNGARRIAK GUZTIENTZAKO!

Healthy menus for everyone!



VALORACIÓN MENUS SAN FELIX IKASTOLA

FEBRERO 2022

SPAIN STUDENTS AGED FROM 14 TO 16 EATING HABITS HEALTHY BEHAVIOUR NUTRITION

THE SCHOOL

- San Felix Ikastola secondary school
- Concerted school in a small town
- Very advanced educational centre in terms of pedagogical innovations

Familiarity with the open schooling approach before joining the SALL project

Beginner

Experienced

AHA MOMENTS

- The living lab project developed **effective and successful** partnerships with local actors and experts: students, teachers and external actors collaborated to set up objectives, develop solutions and validate the ideas.
- The prototypes were **tested with real and final users** to increase their impact and relevance

THE LIVING LAB PROJECT



THE PROBLEM(S)

The students behind this living lab project wanted to apply something they learned in school to help their local community solve a topical issue. They decided to set up a living lab project around the issue of healthy food habits, to help people acquire better knowledge of nutrition and change their food habits.



THE COMMUNITY

- A local food bank opened their warehouse and agreed to share the menus with their beneficiaries
- The school catering company and food quality control company guided the students
- The teaching staff of the Physical Education Department of the local university validated the healthy menus



THE SOLUTIONS

- Produce healthy menu recommendations based on the food items those in need receive by the local food bank
- Disseminate the menus to the targeted group



THE PROTOTYPES

- An online database listing the food items offered by the food bank
- A set of healthy menus for families receiving the solidarity food boxes, accessible with a QR code
- A set of healthy menus to stay in good shape, accessible online by everyone



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GARDEN CLUB

Reconnection with Nature



FRANCE STUDENTS AGED FROM 16 TO 19 SUSTAINABLE DEVELOPMENT FOOD PRODUCTION

THE SCHOOL

- Hénaff vocational and high school
- Urban area in the suburbs of Paris
- The school describes itself as a major actor of its close environment

Familiarity with the open schooling approach before joining the SALL project

Beginner

Experienced

AHA MOMENTS

- The project was rewarded by the **Green Hackathon** – a competition organised by the Ile de France Region
- The students provided the school canteen with the vegetables they grow in the school garden
- Students developed effective partnerships with local actors

THE LIVING LAB PROJECT



THE PROBLEM(S)

This living lab project aims at re-connecting students with nature. In a very dense city like Paris, the connection with nature, the rhythm of the seasons and the cycle of plants is rare. Therefore, the living lab project was designed to show the opportunities schools have to reconnect with nature for sustainability and for the wellbeing of their community.



THE PROTOTYPES

- A garden club, open on Tuesdays
- A seeds bank, hosted by the public library



THE SOLUTIONS

- Create a garden in the school yard
- Grow vegetables and fresh herbs to be cooked by the school canteen staff



THE COMMUNITY

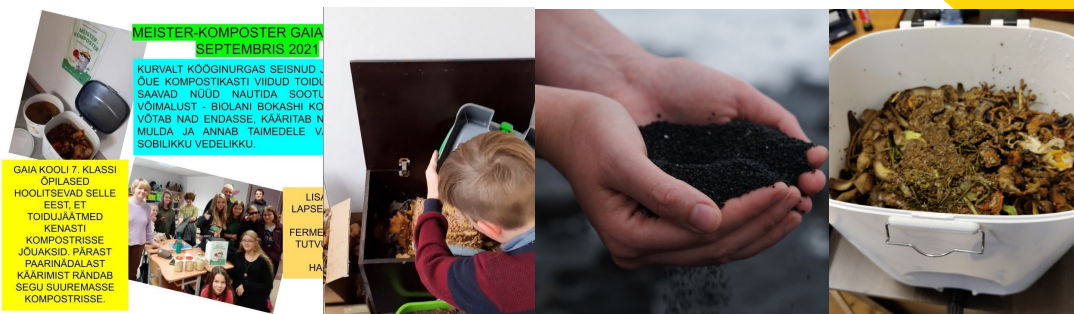
- Regional policy makers awarded and supported the project
- A community garden provided materials and advices
- Neighbours provided a rich compost to feed soil
- A primary school class visited the garden and exchanged seeds from its own garden



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MASTER COMPOSTER

Composting food waste



ESTONIA STUDENTS AGED FROM 12 TO 13 SUSTAINABLE DEVELOPMENT FOOD WASTE

THE SCHOOL

- Gaia elementary school
- Private small community school in Tallin
- The school curriculum has an emphasis on nature studies and national heritage

Familiarity with the open schooling approach before joining the SALL project

Beginner

Experienced

AHA MOMENTS

Shared by teachers and school staff: The living lab project was very successful, students and parents showed a great investment. After the piloting phase, the school decided to scale up the project and got more composters to equip all the classrooms. The whole school is now collecting food waste and turning them into compost.

THE LIVING LAB PROJECT



THE PROBLEM(S)

This living lab project aims at reducing food waste in school, and indirectly in student's homes, and finding a better way to dispose the food waste. The school has a garden in its premise and was also looking for opportunities to improve the quality of its soil.



THE COMMUNITY

- Parents were involved in gardening
- A researcher shared knowledge about the food system and food waste
- School cafeteria staff participated in the composting
- A composter builder company offered the composter materials



THE SOLUTIONS

- Build a composter in the school
- Collect food waste in the school and in student's home and compost them
- Use the compost for the school garden



THE PROTOTYPES

- A composter, using the Bokashi method
- A series of experiments and observations, using the composter, for school work



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BACK TO THE GARDEN

Using nature as a support for learning



ESTONIA STUDENTS AGED FROM 11 TO 12 ENVIRONMENT LEARNING OUTDOORS

THE SCHOOL

- Muraste elementary school
- Medium size school, surrounded by nature
- The school considers it important to use nature and school surroundings as a learning environment.

Familiarity with the open schooling approach before joining the SALL project

Beginner

Experienced

AHA MOMENTS

Shared by teachers and school staff: The school community was very happy to work on the living lab project and they loved the outcome. The parents involved gave positive feedback and were happy that they had the opportunity to take part. School is interested in continuing to develop their garden and create new activities that can be directly linked with the school garden.

THE LIVING LAB PROJECT



THE PROBLEM(S)

This living lab project aims at preserving the natural environment surrounding the school and encouraging students to feel themselves as a part of that environment. The project focuses on rebuilding and developing further the school yard. Participants also want to create more opportunities and activities for outdoor learning.



THE COMMUNITY

- Parents were involved in gardening
- The school maintenance staff helped in building the planting boxes
- A local gardening company provided soil for the plants bed



THE SOLUTIONS

- Build new planting boxes
- Use the garden as a support for maths, geography, history and arts lessons
- Involve parents in gardening, even beyond the school year



THE PROTOTYPES

- Planting boxes
- Lessons plans, directly linked to the school garden



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THE ENVIRONMENT IS CLEANER WHEN THE REUSABLE IS HERE



ISRAEL STUDENTS AGED FROM 13 TO 14 ENVIRONMENT WASTE SINGLE USE PLASTIC

THE SCHOOL

- ORT Dafna, Junior High School
- Medium school in the suburbs of Haifa
- The school strives to educate every student to be an autonomous person

Familiarity with the open schooling approach before joining the SALL project

Beginner

Experienced

AHA MOMENTS

Shared by teachers: The leading teachers saw this project as a learning opportunity for her as well.

By students: The students said that the project helped them to change their opinion about using disposable dishes, same goes for their families and for the school staff.

By societal actors: The Mayor and the Municipality took this opportunity to leverage the city approach to environment and start promoting it with school students.

THE LIVING LAB PROJECT



THE COMMUNITY

- A scouts group and a bike club, who use a large amount of disposable dishes, took part in the brainstorming activities and signed the petition
- A regional environmental NGO and representatives of the Ministry of Environmental Protection gave lectures relevant to the topic
- The municipality gave authorisation to install equipment in public outdoor space and spread the communication campaign
- A university professor gave a lecture on pollution and environmental damages of plastic.



THE PROBLEM

This living lab project addresses the environmental pollution caused by large-scale consumption of disposable tableware – especially plastic or other non-degradable bags and dishes people use when eating outside.



THE SOLUTIONS

- Raise awareness of the environmental impacts of using single-use plastic dishes
- Convince the local community to take actions to reduce their consumption of disposable dishes



THE PROTOTYPES

- A communication and awareness campaign
- A petition for committing to reduce the use of disposable dishes in the city



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SUSTAINABLE AND HEALTHY FOOD

Helping local businesses act sustainably



THE NETHERLANDS STUDENTS AGED FROM 14 TO 16 HEALTH SUSTAINABILITY FOOD

THE SCHOOL

- Christelijk Lyceum Veenendaal High School
- An open, Christian school community in a small city
- The school encourages students to develop their talent and creativity.

Familiarity with the open schooling approach before joining the SALL project

Beginner

Experienced

AHA MOMENTS

Shared by teachers: Teachers really enjoyed working with the community outside the school.

By students: Students, especially those that were able to connect with a societal actor of their own choosing, indicated this motivated them more to work on school than usually.

By societal actors: One of the societal actors was happy to get to know the students in a different way than merely as customers in their snack bar.

THE LIVING LAB PROJECT



THE PROBLEM(S)

This living lab project addresses two main issues to make local food business more sustainable:

- Exploring how catering business can act sustainably
- Investigating sustainable packaging solutions



THE COMMUNITY

- A local catering business, the school cafeteria, local sports club canteens and a local snack bar took part in the interviews
- A chain supermarket franchise holder and a company that produces sustainable packaging provided information and gave talks about healthy food and sustainable packaging alternatives



THE SOLUTION

- Develop advices and recommendations on sustainable business, based on information collected from social actors involved in the living lab project



THE PROTOTYPES

- Interview guides to collect useful information
- Sustainable lunch menus, tested within the school
- Sustainable packaging ideas presented to professionals in the field



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HRANA S NAŠEG OTOKA

Food from our island



CROATIA STUDENTS AGED FROM 14 LOCAL FOOD PRODUCTION HEALTH TRADITIONS

THE SCHOOL

- Maria Martinolić Elementary School
- A large school in the island of Lošinj
- The school has a strong experience in developing school projects with the island community

Familiarity with the open schooling approach before joining the SALL project

Beginner

Experienced

AHA MOMENTS

Shared by teachers: “Geography is best learned through the feet, and I hope that it was instructive for them and that they realised what opportunities our island offers. “

By societal actors: “I have never told students about my job before, but I think it’s good that they see what the job is like on the spot because you can’t learn it at school. I hope that my experience will help them to choose a future profession and that they will understand that everything is beautiful, but home is the most beautiful.”

THE LIVING LAB PROJECT



THE PROBLEM(S)

Food packaging and shipping to the island significantly affect the price and quality of the food. The living lab explores opportunities for local food production and its impact on the quality and price of the products.



THE COMMUNITY

- An olive grower, a herdsman, a fisherman and cheesemakers described their work day and invited students to visit their farms.
- The director of the Island development agency and representative of local development NGOs were interviewed to better understand the topic.



THE SOLUTIONS

- Develop a better understanding of the traditional island diet
- Encourage healthy eating habits within the local community



THE PROTOTYPES

- An advertisement for homemade olive oil
- A set of recipes using sheep-based or fish-based products



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OD VRTA DO STOLA

Through tradition and modernity, from the garden to the table



CROATIA STUDENTS AGED FROM 11 TO 14 HEALTHY DIET EATING HABITS

THE SCHOOL

- Jelenje – Dražice Elementary school
- A small school in a village
- The school promotes an active and healthy life in the community

Familiarity with the open schooling approach before joining the SALL project

Beginner

Experienced

AHA MOMENTS

Shared by the school leader: “This project is a great way to encourage students to live a healthier lifestyle.”

By students: The students involved in the project were thrilled to learn something new and to participate in creating something different and significant for their school.

By societal actors: The societal actors involved saw the project has a great opportunity to show students and teachers their unique savoir-faire.

THE LIVING LAB PROJECT



THE PROBLEM(S)

The living lab chose to address the issue of a nonnutritious diet. The participants wanted to develop healthier eating habits and to be able to distinguish between healthy and unhealthy foods.



THE COMMUNITY

- Parents gave support to the students at home, specially for preparing and testing meals
- A family agricultural business introduced the students with the manufacturing of ecological corn flour and cheese.



THE SOLUTIONS

- Engage students in activities from farm to fork
- Encourage healthy eating habits within the school



THE PROTOTYPES

- A fresh herbs garden within the school
- A survey to study eating habits
- Meal preparation sessions
- A digital cookbook



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CHALLENGE YOURSELF FOR SUSTAINABILITY!



PORTUGAL STUDENTS AGED FROM 15 TO 19 HEALTHY EATING HABITS FOOD WASTE

THE SCHOOL

- CED Pina Manique - Casa Pia High School
- The school's mission is to integrate students through inclusive educational paths, based on prolonged education, quality vocational education and a commitment to professional integration.

Familiarity with the open schooling approach before joining the SALL project

Beginner

Experienced

AHA MOMENTS

Shared by the school leader: Teachers found it very gratifying to see the way in which the students adhered to this project and the activities developed.

By students: The students felt that they had a voice in the improvement of the food systems in their school. They were always asking when the next session was.

By societal actors: The societal actors involved were very pleased by the topic and proud to participate in the project that they consider very important for the development of students as citizens.

THE LIVING LAB PROJECT



THE PROBLEM(S)

The living lab addresses the food system within the school. Participants decided to assess the quality and the variety of the food served at the school's cafeteria and to reduce food waste before and after serving meals.



THE COMMUNITY

- A chain store specialised in zero waste products and a food supplier specialised in collective catering contributed with expertise and feedback
- The school director and the school board supported the initiative and attended some of the sessions to contribute with ideas on how to reshape the food systems in the school



THE SOLUTIONS

- Reduce food waste in the school canteen
- Promote healthy eating habits and increase the supply of fruits in school



THE PROTOTYPES

- A world café to discuss the issue in groups
- A blind test competition on fruits and vegetables



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FIGHTING FOOD WASTE: REFLECT AND ACT



PORTUGAL STUDENTS AGED FROM 12 TO 15 HEALTHY EATING HABITS FOOD WASTE

THE SCHOOL

- Escola Básica Pedro Jacques de Magalhães
- Large school located in a county well-known for its natural and gastronomic heritage, where urbanism and rurality combine.

Familiarity with the open schooling approach before joining the SALL project

Beginner

Experienced

AHA MOMENTS

Shared by teachers: “It was possible to observe a significant improvement, as there was no longer any food waste, at the same time healthier eating habits were created” ; “The project has provided dynamic and common moments of reflection between the various partners to find solutions to the problems detected.”

By school leader: “Reflecting on what we eat at school, food waste and ways to reduce it, help to make future students more informed, responsible and committed citizens”.

THE LIVING LAB PROJECT



THE PROBLEM(S)

Students started this living lab project by monitoring the amount of wasted food at the school canteen during one week: 140kg of food is thrown away, 8% of the meals are not eaten and only 20% of the students eat fruits. They decided to reduce the amount of food waste and encourage healthier eating habits.



THE COMMUNITY

- Representatives of the the Environmental and Educational Departments of the city council contributed with expertise and feedback
- A representative of the Parents Association contributed with feedback on the strategy to raise students' awareness about food waste



THE SOLUTIONS

- Adjust the quantity of the food served on the plates
- Create a fruit take-away spot with leftover fruits from the canteen
- Separate organic waste from other residues
- Raise awareness of food waste problem within the school



THE PROTOTYPES

- A fruit take-away spot
- A series of workshops on nutrition, organic waste management and composting
- A set of sustainable and healthy food recipes
- A world café to explore the issue with stakeholders



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RAISE AWARENESS CONCERNING ENVIRONMENTAL PROBLEMS



CYPRUS STUDENTS AGED FROM 12 TO 19 PLASTIC POLLUTION FOOD WASTE

THE SCHOOL

- The International School of Paphos
- A private English school, located on the outskirts of the 2nd largest city of the country
- The school's overall mission is to promote a well-rounded education in partnership with families

Familiarity with the open schooling approach before joining the SALL project

Beginner

Experienced

AHA MOMENTS

Shared by teachers: "This project helped in supporting all the different personalities, goals, and needs of the students. Students were given the opportunity to make their own choices for the project and in that way, they increased intrinsic motivation, and put in more effort to design and implement all these actions – an ideal recipe for better learning outcomes."

THE LIVING LAB PROJECT



THE PROBLEM(S)

This living lab project wanted to raise awareness concerning key environmental problems and to promote collaborative work for these issues by involving the local community.



THE COMMUNITY

- Local shops and business sponsored the eco-challenge month by donating food products, fruit trees for the school yard, soil, seeds, etc.
- An artist helped in creating the metal construction that will function as recycling bin
- The municipality gave authorisation to install equipment in public outdoor space
- Parents participated in the eco-challenge month activities



THE SOLUTION

- Organise an eco-challenge month during which challenges and actions related to different environmental problems takes place in the school and the local community



THE PROTOTYPE(S)

- A set of eco-challenge ideas
- An artistic recycling bin
- An app to help reducing food waste
- A school garden
- A tasting of fruits and vegetables
- An eco-sale with herbs and herbal teas from the school garden



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EVALUATE FOOD PACKAGES USED BY FOOD PRODUCTION COMPANIES



CYPRUS STUDENTS AGED FROM 12 TO 13 FOOD PACKAGES WASTE RECYCLING

THE SCHOOL

- The Junior and Senior School
- A private English school, located close to the city centre and situated in a busy area surrounded by several businesses and organisations

Familiarity with the open schooling approach before joining the SALL project

Beginner

Experienced

AHA MOMENTS

Shared by students: “From the Living Lab Experience, we are gaining a plethora of skills, such as working as a team, designing, tech skills, etc. We have learnt that we must come together and collaborate as a team to make Cyprus green again. As the new generation, we feel responsible to bring back the good in the world, restore its natural beauties and create an everlasting impact”.

THE LIVING LAB PROJECT



THE PROBLEM(S)

This living lab project was interested in searching, identifying and evaluating food packages used by food production companies in Cyprus. Participants investigated the type of packages used by local producers and how to promote eco-friendly packaging to producers and consumers.



THE COMMUNITY

- An organisation responsible for packaging waste provided expertise and feedback



THE SOLUTION

- Develop an awarding system for consumers to raise their awareness about whether the products they buy are friendly to the environment and can be recycled.



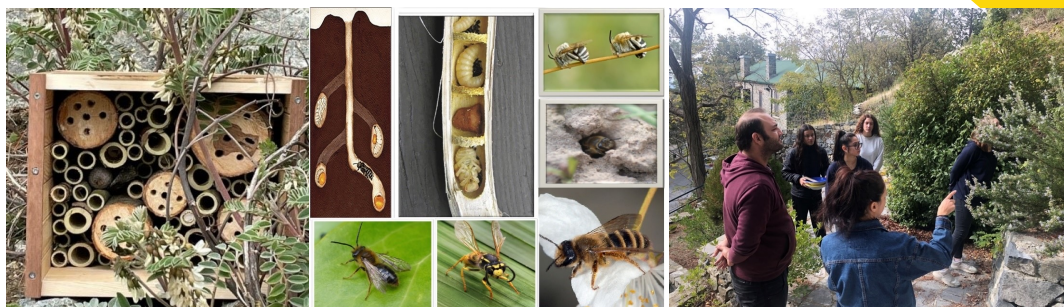
THE PROTOTYPE

- Eco-friendly awareness badges



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PROTECTION OF SOLITARY BEES



CYPRUS STUDENTS AGED FROM 16 TO 17 BIODIVERSITY NATURE PROTECTION

THE SCHOOL

- Emporiki Sholi Mitsi Lemythou
- A school built at 1200 meters altitude and gathering students coming from mountain communities
- Long experience in environmental projects

Familiarity with the open schooling approach before joining the SALL project

Beginner

Experienced

AHA MOMENTS

Shared by the teacher: "For 4 years I have been moved by the zeal of the students. So much excitement! The previous students of the program impart their knowledge and experience to the new students and make them enthusiastic. They are internally motivated, they want to pursue it, to work at it."

By students: The students are excited about the turn their project has taken as they may discover a previously unrecognized species.

THE LIVING LAB PROJECT



THE PROBLEM(S)

This living lab project addressed the need to protect important pollinators in the area, which had not yet been studied. Students, in cooperation with a university researcher and their biology teacher, decided to contribute to the protection and preservation of solitary bees in the villages near their school.



THE COMMUNITY

- A university researcher helped students to collect and analyse samples
- A design and technology teacher contributed in building a bee hotel
- Residents of the area were informed and contributed with protective measures



THE SOLUTION

- Investigate the factors that reduce bee biodiversity in the area
- Collect samples of bees, classify them and find the best conditions for their reproduction
- Create alternative to lost habitat
- Raise awareness within the local communities



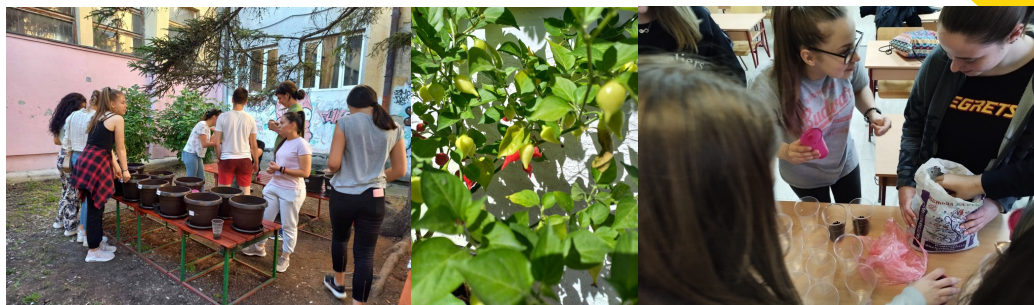
THE PROTOTYPE

- A bee hotel installed in the school area
- Classification of solitary bees
- Bee samples in falcons for future study



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PEPPER SMART GARDEN



SERBIA STUDENTS AGED FROM 15 TO 16 AGRICULTURE FOOD PRODUCTION ELECTRONICS

THE SCHOOL

- Zaječar Gymnasium
- A very active school with a lot of STEM activities
- A community centre for science related activities with a maker space and a science club

Familiarity with the open schooling approach before joining the SALL project

Beginner

Experienced

AHA MOMENTS

Shared by the teacher: "All 15 students that have participated in SALL signed up for the elective course Applied sciences. Which is great! Their interest in science rised and kept rising."

By stakeholder: "It is always a pleasure to work with young people and exit our everyday routine."

By students: "I liked this project because, above all, we socialised while realising it. [...] We tried our best to make something work and it paid off in the end."

THE LIVING LAB PROJECT



THE PROBLEM(S)

Eastern Serbia has been performing poorly in terms of food yield for years, with mostly grain and wheat planted. This living lab project wants to address this issue and develop solutions suitable for the region.



THE COMMUNITY

- Agricultural pharmacy contributed with fertilizers and pest control techniques
- The local Chilly club provided advices, plant pods and seeds
- Parents took care of the sprouts at home
- Local restaurants were offered the food production



THE SOLUTION

- Determine which crops could grow better in the region
- Create smart garden tools to monitor the crops
- Raise awareness of the production and consumption of local products within the community



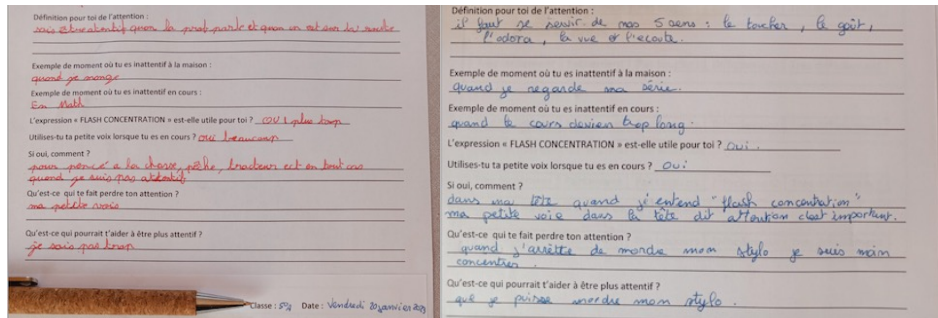
THE PROTOTYPE

- A mini smart garden for growing chili peppers
- System of watering and tracking which includes Arduino controls



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CONTROL YOUR ATTENTION



FRANCE STUDENTS AGED BETWEEN 12-13 YEARS OLD SCIENCES LEARNING EDUCATION

THE SCHOOL

- Collège Saint Joseph
- Part of a scholar group accompanying students from kindergarten to third grade.
- Workshops offered to the pupils:
 - Theatre, choir, arts, crafts, escape book, the seed of engineers...
- Composting and garden area, managed by teachers and students

Familiarity with the open schooling approach before joining the SALL project

Beginner

Experienced

AHA MOMENTS

Shared by the teacher: "For my students, discussing with other adults about the topic had more impact than our last discussions in class."

By stakeholder: "I was afraid of a time-consuming project, but since I took part in the project conception it has never been problematic."

By students: "Discussing with me was not a priority during the sessions they had to work on the project."

THE LIVING LAB PROJECT



THE PROBLEM(S)

A generalised lack and loss of attention has been highlighted. The students decided to work on attention mechanisms after discussing with their maths teacher about their learning issues.



THE SOLUTION

- Brainstorming sessions before researchers' intervention and supervising the poster's preparation time.
- A survey and some exercises were proposed to improve their attention and control it.



THE COMMUNITY

- A science association provided help to organise the brainstorming sessions before the researchers' intervention and to supervise the poster preparation time.
- A neuroscientist researcher helped build a survey about students' attention and learning habits. He answered questions and proposed exercises to develop attention and control it better.



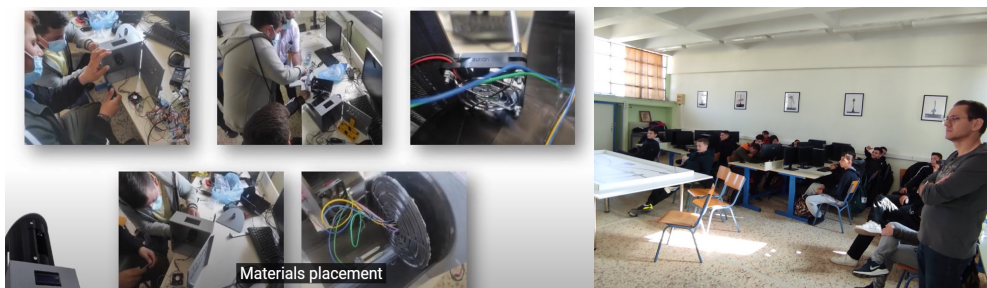
THE PROTOTYPE

- A survey about attention, and class times
- Class time to prepare posters



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SMART COMPOSTING SYSTEM



GREECE STUDENTS AGED BETWEEN 16-19 YEARS OLD SCIENCE COMPUTER ELECTRONICS

THE SCHOOL

- 1st Vocational High School of Trikala
- Teleconference / Online learning
- The school's priority is the effectiveness of the teaching procedure, the enhancement of the students' self-confidence, and the enrichment of their knowledge
- The only school in upper Secondary Education in Trikala that hosts refugees.

Familiarity with the open schooling approach before joining the SALL Project

Beginner

Experienced

AHA MOMENTS

Shared by the teacher: "Our students have managed to create impressive and innovative projects impressing and winning awards."

By stakeholder: "A special mention was made of automated systems used by the Municipality of Trikala that make our city the most innovative smart city in Greece."

By students: "We've decided to create our system for smart composting to help implement a circular economy in our Municipality."

THE LIVING LAB PROJECT



THE PROBLEM(S)

Large volume of waste, soil erosion, reckless use of fertilizers.



THE COMMUNITY

- Partners of the Municipality of Trikala
- A presentation was held at the 12th Student Festival of Digital Creation
- Strong relations with local authorities, associations, trade unions, social networks



THE SOLUTION

- Encourage the use of secondary materials and waste as productive resources and valuable materials, giving the dimension of sustainability to the production model.
- Some exercises were proposed to develop their attention and control it better.



THE PROTOTYPE

- Composting system can minimize or even eliminate waste at all stages of production
- A compost bin designed in TinkerCad and printed on our school's 3D printer



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SCHOOL GARDEN, ANOTHER WAY TO LEARN



SPAIN STUDENTS AGED BETWEEN 14-16 YEARS OLD SCIENCE AND TECHNOLOGY LANGUAGE ARTS

THE SCHOOL

- IES Bertendona BHI in Bilbao
- The school is characterised by having its classes in the afternoon (between 14:00 and 18:00h)
- Since 1988 it has been co-educational, it is also characterised

The relationship of this school with the SALL project has been through a teacher of the school, responsible for designing a STEAM project

Beginner

Experienced

AHA MOMENTS

Shared by the teacher: "Students learn habits of sustainability, protection of the environment, recycling... and others put their technological skills into practice to design a real, tangible solution that can continue to improve."

By stakeholder: "The collaboration for the moment has been at the level of consultation on the recommendations for the maintenance of the garden and especially for the design of the composting plant."

By students: "The project favors our inquiry as students. Learning will have much more impact with the collaboration of local companies."

THE LIVING LAB PROJECT



THE PROBLEM(S)

Need to design and carry out maintenance of the School Garden as a practical learning classroom: To maintain the School Garden from one school year to the next; keep the soil of our growing tables nutrient-rich and automatic irrigation when the center is closed.



THE SOLUTION

- Building a compost bin and irrigation system based on the selection by consensus of the best designed project.
- Once built, a comparison will be made with similar solutions on the market.



THE PROTOTYPE

- Laboratory elements for the study of the earth
- Weather stations for the study of environmental conditions
- Technology Workshop: Construction of the compost bin and the irrigation system
- Design on paper and transfer to Sketchup or Tinkercad with measurements to scale for the sketch of the solutions proposed by the students.



THE COMMUNITY

- Local companies of urban gardens have been contacted
- Elicol, expert agent in garden works and ecological agriculture
- Urban Cooperative Garden of San Francisco



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BARN OWL PROJECT



ISRAEL STUDENTS AGED BETWEEN 14-15 YEARS OLD ENVIRONMENT AND SUSTAINABILITY

THE SCHOOL

- Kfar Galim
- Educational youth village, with students from 7th to 12th grade, serving students from Hof Carmel and a boarding school
- Large open landscapes and a cow shed, a dog shelter, a greenhouse, a dairy, and a petting zoo
- The initial contact with the school was done by addressing the principal (immediately when we started looking for schools at the early stages of the SALL project).

Beginner

Experienced

AHA MOMENTS

School leaders: "The project gave them, and our staff, excellent opportunities to know and influence their community and to present their findings to grown-ups."

Shared by the teacher: "Working on a 'real life' project with students is both fascinating and challenging. We have already made important connections and used them to improve and enrich other educational projects in our school. We believe the students were engaged in this project much more than other 'regular' classes."

By stakeholder: "The results are innovative and pretty, and we would like to consider expanding our partnership for the upcoming years – about this project or others."

By students: "It was more interesting to learn in this way (field trips, freedom to learn at our own pace and methods). Meeting people from our community and learning about a local topic we had never heard about was interesting."

THE LIVING LAB PROJECT



THE PROBLEM(S)

Rodents in agricultural areas and the use of pesticides in the local agricultural fields.



THE COMMUNITY

- Stakeholders from a nearby village called Kerem Maharat:
 - Hof Carmel Agricultural Committee
 - Dr. Itay Bloch - Barn Owl in Agriculture National Project (Academic Advisor)
 - Kerem Maharat Local Committee
 - Kerem Maharat Agricultural Group
- Students talked/worked with local farmers



THE SOLUTION

- Promoting "greener" agriculture in the area
- Raising awareness of local farmers to biological pest control
- Strengthening connections between the school and the local community



THE PROTOTYPE

- The students worked in groups to design and build 6 models of barn owl boxes, each with different specifications.



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GASTRO NUSHA



SERBIA STUDENTS AGED BETWEEN 6-10 YEARS OLD BIOLOGY HISTORY GEOGRAPHY

THE SCHOOL

- Oš Branislav Nušić, Donja Trnava, Niš
- Very strong STEM teachers and STEM activities
- The school is located in a rural area and very involved with the local community
- SALL coordinator for the school, is also a Scientix ambassador.

Geography Teacher elaborated an action plan for SALL's activities aligned with the ongoing food-related activities at the school.

Beginner

Experienced

AHA MOMENTS

School leaders: "These projects are important and give real-life sense to what children abstractly learn during class."

By stakeholder: "We discovered what potential is hidden in our village and how we can improve development."

By students: "We prepared food, and the ingredients came from our gardens."; "It was a new flavor!"; "Most importantly, we learned not to throw food."

THE LIVING LAB PROJECT



THE PROBLEM(S)

Traditional nutrition and meals are being forgotten. Only a few of them know what healthy food is, and are familiar with the ways of consuming and preparing it.



THE COMMUNITY

- Older family members of the students
- Artists from the region
- Rural-tourist household
- Village "Vila Vera" household



THE SOLUTION

- Introducing students to the preparation of food and how to use the leftovers in a healthy and useful way.



THE PROTOTYPE

- Interactive workshop during the visit to the rural household "Vila Vera". Students applied everything they had learned in this project. Food was prepared, different tastes were mixed, fruit and vegetable salads were made, new dishes were innovated by combining some ingredients that they had not had the opportunity to mix before, and gummy candies were made according to their recipe.



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More than 50 schools across Europe are already implementing the Schools As Living Labs methodology, transforming their teaching approach to become open-education spaces serving the society.

Our next step is to expand this community across 10 countries and 400+ schools: Croatia, Cyprus, Estonia, France, Greece, Israel, Portugal, Serbia, Spain, The Netherlands.

If you want to know more about the projects featured in this portfolio or to join the open schooling movement, send us a message hello@schoolsaslivinglabs.eu



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