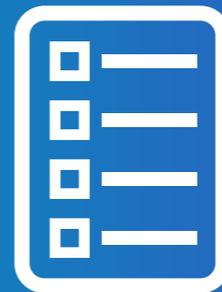
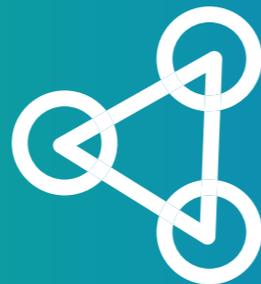
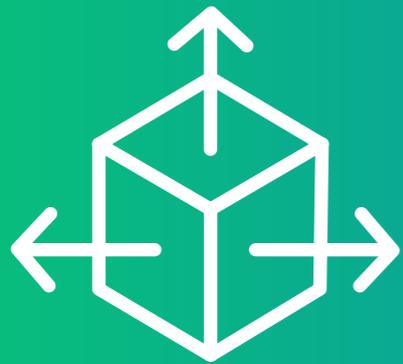


MAKE IT OPEN

Schooling Toolkit



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Introduction

To better address the rapid and constant technological, social, and economic change in society, formal education practices should be reinforced by non-formal educational practices.

Over the past decade, the national educational standards of numerous countries, including the United States, Canada, Finland and many European countries, have evolved to incorporate relevant scientific practices and engineering skills for the modern world (NGSS, 2013; The Finnish National Board of Education, 2011; Council of Ministers of Education (Canada), 2011; The Council for Europe, 2000). These standards emphasize skills such as asking questions, solving real-world problems, designing solutions, and fostering personal connections to learning. They have also moved away from learning myriad (and often disconnected) content topics as fast as possible - just to “cover” all the content - to focusing on big concepts and ideas, in-depth learning, and project-based approaches. This has been the result of almost 100 years of progressive educational research and advocacy - a slow but ultimately successful movement to change what we expect from schooling, what skills are fostered, and how to organise national curricula.

However, as difficult as it is to write modernised national standards, it is much harder to transpose that into schools and classrooms. In most educational systems worldwide, including many countries with modern standards, students still sit in rows and memorise equations in a lecture-style classroom setting. **The reality is that school is still disconnected from many aspects of society and does not prepare students for their future role as contributors to society.**

The formal educational system is inadequate in addressing contemporary society's challenges. **To better address the rapid and constant technological, social, and economic change in society, formal education practices should be reinforced by non-formal educational practices.** The significance of continuous, lifelong learning emphasises a need for the formal education professionals to adopt a more comprehensive view of educational settings. This view moves beyond the traditional model of educators and students in classrooms to encompass a learning model that brings together teaching teams, experts, students, and parents throughout the community. The inclusion of informal learning is critical in addressing the demands of modern society (The Council for Europe, 2000). Children will be better served by a formal education system that embraces non-formal learning environments and practices to better prepare them for lifelong learning beyond the classroom.

Make it Open adopts the concept of Open Schooling where schools are transformed from traditional educational institutions into community partnerships and become agents of community well-being. Open Schooling is an approach in which purposeful collaborations are built between schools and their wider communities. Families, experts and other stakeholders collaborate with teachers and students to address relevant local challenges, contribute to community development, and promote an active global citizenship attitude. **Open Schooling describes learning which is ‘open’ in terms of timing, location, teaching roles, instructional methods, modes of access, and any other factors related to learning processes.** Most schools already do some level of open learning, through off site trips, on site visits and remote learning.

The Make it Open project

The Make it Open project is a three-year international collaboration funded by the European Union that **seeks to promote innovative science, technology, engineering, arts, and mathematics (STEAM) learning activities and foster partnerships between schools and local communities**. Led by the Bloomfield Science Museum in Jerusalem (Israel) and a consortium of six partners from formal and informal science education - Copernicus Science Centre (Poland), Waag (Netherlands), Forth (UK), Ecsite (Belgium), the European Schoolnet (Belgium), and the Transformative Learning Technologies Lab at Teachers College, Columbia University (USA) – Make it Open aims to support schools in becoming community partners. The project is based on two primary pedagogical approaches: Open Schooling and the Maker movement.

Promote innovative science, technology, engineering, arts, and mathematics (STEAM) learning activities and foster partnerships between schools and local communities

Make it Open has developed a mix of actions, tools and resources that are open for the education community to engage with. A key component of the project is the development of **16 distinct learning scenarios** (LSs) co-created with input from informal and formal educators and teachers. Each LS comprises 5 to 11 interdisciplinary learning units that align with the maker education and Open Schooling approaches, and cover topics ranging from food production to air pollution. Each LS also follows a designated template to help schools transition into Open Schooling ideas/framework. And include a step-by-step scaffold that teachers can follow and adapt based on community and curricular needs.

In addition to the 16 Learning Scenarios, the Make it Open project has developed an **interactive web-based platform designed to assist teachers and educators in navigating the Open Schooling landscape**, downloading materials, and designing new learning scenarios: **The Navigator**. The project has also established local community hubs in ten European countries to empower schools and support teachers and educators in the implementation process at their respective schools. Additionally, the project has created a **Massive Open Online Course (MOOC)** to introduce the principles of Open Schooling and Maker education and to help teachers and educators design their own learning scenarios.

Make it Open has four primary objectives:



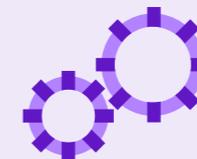
Position schools at the center of community wellbeing



Introduce maker education and citizen science as transformative approach for open schooling



Increase the level of scientific literacy and interest in science of students and parents



Mainstream Open Schooling

Who is this Toolkit for?

This comprehensive toolkit on Open Schooling, inspired by the EU project Make it Open, caters to two distinct target audiences: **teachers** and **non-formal learning organisations** seeking to implement Open Schooling projects.



Designed to empower teachers and educators on their Open Schooling journey, the toolkit offers access to a wealth of valuable resources. Within its content, educators will discover Make it Open tools, practical guidance, innovative approaches, and inspiring examples, all of which will facilitate the successful implementation of Open Schooling projects in their educational environments. Whether educators aim to integrate maker education, forge strategic partnerships, or foster community engagement, this toolkit equips them with the necessary tools and knowledge to bring the transformative concept of Open Schooling to life.



For non-formal learning organisations, this toolkit serves as a valuable resource that draws upon the direct experiences and invaluable tips shared by the 10 hubs involved in the Make it Open project. These hubs, mostly led by science centres and museums as well as other non-formal learning organisations, acted as educational incubators and supported over 150 schools in their transformation from traditional educational institutions to spaces of community well-being. By leveraging their extensive networks and professional connections, these hubs have facilitated transformative partnerships between schools and various stakeholders, including parent organisations, non-formal science education organisations, maker spaces, civil society, enterprises, research labs, and local authorities. Non-formal learning organisations can benefit from the insights and strategies shared within the toolkit to effectively guide schools in becoming Open Schooling environments and nurturing community well-being.

Overall, this toolkit serves as an indispensable companion for formal and non-formal learning organisations alike, providing them with the expertise and inspiration to embrace Open schooling and shape the future of education.

Why is this toolkit relevant?

The Make it Open Schooling toolkit, derived from the learnings of the Make it Open project, provides a range of practical benefits that make it highly relevant for various community actors. By embracing Open Schooling principles outlined in the toolkit, **schools can position themselves at the center of addressing both local and global challenges relevant to their communities.**

Open Schooling empowers students to become change-makers, equipping them with the skills, knowledge, and mindset needed to drive meaningful transformations. Through collaborative efforts involving diverse stakeholders, such as non-formal education organisations, families, and local authorities, Open Schooling initiatives foster community engagement and generate innovative solutions.

The toolkit serves as a guide, enabling educators to design inclusive learning environments that encourage active participation and enhance students' abilities to tackle real-world issues. By adopting Open Schooling practices, different community actors can cultivate a culture of creativity, critical thinking, and social responsibility, **empowering students to make a positive impact within their communities and beyond.**

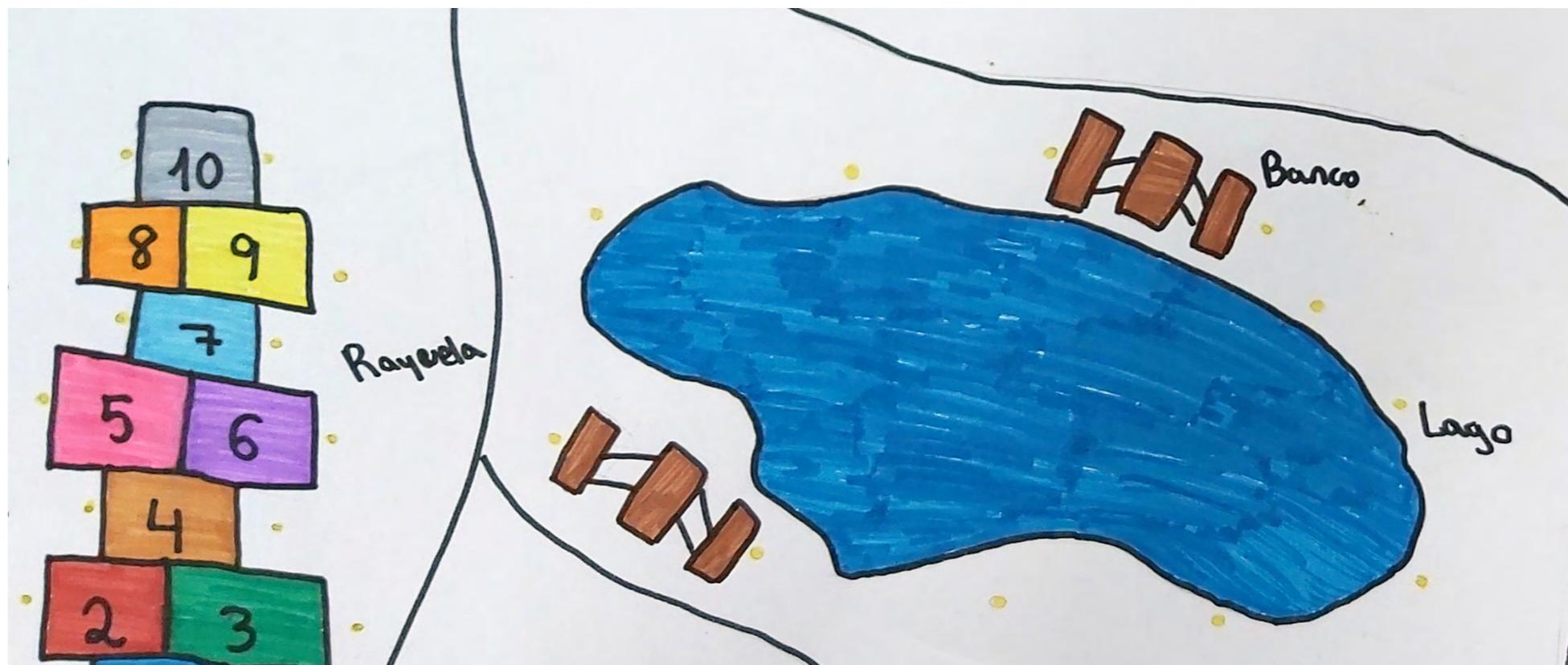


Photo from the Spanish hub: Museos Científicos Coruñeses

How to use this Toolkit?

The Make it Open Schooling toolkit is a valuable resource for both **teachers** and **non-formal learning organisations**, offering guidance and support in leveraging the potential of Make it Open tools. Divided into two main sections, this toolkit caters to the distinct needs of these target audiences.

However, there are three chapters – **How to Get Started with Make it Open Tools**, **How to Engage with External Partners**, and **How to Engage with Parents** – that hold relevance for both groups, making them transversal to their shared goals.

While it is recommended to read the toolkit from beginning to end to gain a comprehensive understanding, users have the flexibility to navigate directly to the sections that are most relevant to their specific needs and interests. Whether you are a teacher seeking practical strategies for integrating Make it Open tools into your classroom or a non-formal educator aiming to foster collaboration with schools and external partners, this toolkit provides you with actionable insights and guidance.



Photo from the Spanish hub: Museos Científicos Coruñeses

How to implement an Open Schooling approach?

Teachers' section

“We were impressed with the level of engagement and creativity shown by our students during this project. It was exciting to see them working together to design and implement a solution to such an important issue like waste management.”

Israeli teacher, Ha'ela school

How to get started?

1. Open Schooling Information Packs

The [Open Schooling Information Packs](#) can be a great starting point for your Open Schooling journey. Designed for teachers and school leaders new to Open Schooling, the packs contain useful information on Open Schooling, the benefits of such a practice and how you can begin exploring Open Schooling practices within your school or community. Have a look at their three sections:



Introduction to Open Schooling

Pack One introduces the Open Schooling approach, illustrating its key elements and building blocks. It also explores its benefits for the different actors involved: students, teachers, schools and communities.



Open Schooling case studies

Pack Two presents a set of case studies showing how Open Schooling building blocks can be combined to make the learning experience more open and connected.



Planning your Open Schooling activities

Pack Three provides an overview of the planning stages of your Open Schooling activity and some pointers to keep in mind.

2. Make it Open Schooling MOOC

The [Make it Open Schooling MOOC](#) introduces participants to Open Schooling as well as Maker Movement's ideas and pedagogy. It illustrates how the Open Schooling approach to teaching and learning can be integrated in educational activities – particularly STEM education – and be coupled with Maker pedagogy.

The MOOC targets educators, e.g., teachers, non-formal learning organisations, curriculum designers, and all of those who want to place schools at the heart of local communities, making them part of the solution to local challenges.

What are its Learning Objectives?

- Introduce participants to Open Schooling (OS), Maker pedagogy, as well as Inquiry-Based Learning and help them understand how they can be integrated in their educational activities.
- Empower teachers with a new methodology and support its use via the creation of an engaged community.
- Introduce the Navigator as well as the other ready to use material created within Make it Open and guide participants to its use.



Module 1: Get to Know Open Schooling

This module will introduce you to Open Schooling and the Make it Open project, shortly setting the theoretical framework as well as the practical context for the entire online course. You will also be introduced to the Open Schooling Navigator!

Module 2: Learn More About Open Schooling

Throughout this module, you will learn more about Open Schooling and understand better how this approach can be particularly effective for Science Education. You will also discover crucial factors for an Open Schooling activity as well as the MiO information packs.

Module 3: Open Schooling and Maker Education

In this module, you will learn more on Maker Education and show how this approach can be successfully associated with Open Schooling to design and carry out STEM activities. In addition, you will explore the advantages of using an Inquiry-Based Learning approach for teaching and learning science, as this is often coupled with Open Schooling

Module 4: Assess Open Schooling Activities

This module provides you with further examples of Open Schooling activities for you to get inspired before handing in your final assignment. In addition, it presents information and tips to create and assess Open Schooling learning activities.

3. The Learning Scenarios

If you are looking for inspiration for your Open Schooling activities, the 16 co-designed [Learning Scenarios](#) presented here offer an excellent solution. Developed by Practice Partners and pilot teachers across four countries, these scenarios cover various STEAM areas without relying on specific capabilities or infrastructures. Their adaptability allows implementation in any setting, serving teachers with diverse abilities and interests. Fostering creativity, critical thinking, and engagement, these scenarios aim to ignite a passion for learning among primary and secondary school students.

For primary schools:

- 1 [Exercise for Thought](#)
- 2 [How Clean is Our Air?](#)
- 3 [From seed to compost: circulation of matter in nature](#)
- 4 [Forces of Nature](#)
- 5 [Energy Research](#)
- 6 [Let it Rain!](#)
- 7 [The Art in STEAM: Transitions from 2D to 3D](#)
- 8 [On Two Wheels](#)

For secondary schools:

- 1 [Our Moving World: Physics Everywhere](#)
- 2 [Zero Waste School](#)
- 3 [Sounds Around Us](#)
- 4 [Dealing with Waste](#)
- 5 [Decision-Making](#)
- 6 [Illicit Drugs](#)
- 7 [Biodiversity around us](#)
- 8 [Healthy Snack](#)

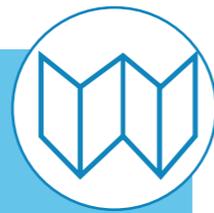
Case study #1: How to implement the “Forces of Nature” Learning Scenario

A story from the ground from the Swedish Hub, Tom Tits Experiment

Inventing Engines, Reinventing Education

At Rådmansö Middle-School, 72 km north of Stockholm, the students turned the classroom into a laboratory. Nina Berglund, a passionate science, technology, and Swedish teacher for grades 4-6 at Rådmansö skola, suggested participating in Make It Open. Inspired by her own science teacher during training, Nina values discovery and accessibility of subjects like physics and chemistry. The pandemic prompted discussions about expanding students' experiences beyond school, and Nina believes the school has a responsibility to compensate for students' limited access to resources at home. She discovered Make It Open, aligning perfectly with the school's goals. Since then, grades 4-6 collaborated for the first time, approaching forces and motion together, leading to high student engagement and requests for more interdisciplinary experiences.

Prepare



Nina and her colleagues selected "Forces of nature" for its alignment with the middle school curriculum. They planned to engage a physics professor and Tom Tits Experiment for workshops and an exhibition visit.

Brief



The teachers presented theoretical information about forces and motion, informing students of their innovative approach to the topic.

Research



A theoretical physics professor from Uppsala University kick-started the unit with an inspiring video and live demonstration – students were hooked! Students visited Tom Tits Experiment, enthusiastically engaging in related challenges.

Create



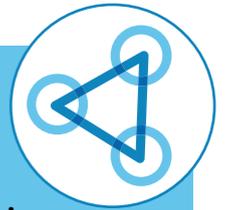
Research and creation went hand-in-hand, with students building cars, rockets, and programming simple tivoli attractions using Lego Spike Essentials.

Grade 4 designed balloon cars, incorporating the unit into their Swedish class. Since it was December, the teacher created a story about a small Christmas elf who wished for a balloon-powered car to use in the summertime when Julmust (a Christmas drink) wasn't available as fuel.

The students in grade 5 made rubber-band cars. The students in grade 6 made cars with mouse traps.

The students made and launched air-pressure rockets and built and programmed with Lego on a school visit by educators from Tom Tits Experiment. At the conclusion of the unit, the students visited Tom Tits Experiment to wrap up their learning scenario by completing various forces and motion-related challenges in the science centre's exhibition. The teacher reflected over how the students collaborated better and were more focused on their tasks while completing challenges at the science center.

Share



Students showcased their creations and tested them together across grade levels and shared their work during parent-teacher-student meetings. The unit's planning was digitally shared with parents and featured in the monthly newsletter. An article about the school's project was also featured in a national magazine for technology educators in Sweden.



Photo from the Swedish hub: Tom Tits Experiment

Case study #2: How to implement the “How clean is our air?” Learning Scenario

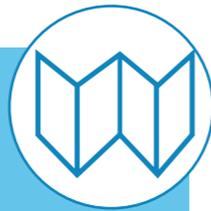
A story from the ground from the Polish Hub, Copernicus Science Centre

A school at the service of the city’s wellbeing

Pracownia school in Łódź is not new to innovative approaches in education. An already ‘experimental’ environment, it presents an extremely flexible curriculum: unlike many counterparts, no fixed timetables divide lessons, as more emphasis is given to the quality of learning, rather than to its quantity.

A specific trait makes this institution particularly suitable for the Make it Open philosophy, that is its openness to the outside. Based on their interests, students may propose the subjects following their curiosity, which allows the penetration of recurrent external issues into the classroom. In such an industrial city as Łódź, air pollution represents an alarming matter, as well as the most natural choice as a subject for a science class. Thus, the students developed the hypothesis that would drive their research and meticulously organised the activities.

Prepare



The chosen topic was suggested by the students themselves, focusing on the significance of air pollution and air quality in Poland during the autumn and winter seasons. The students explored the prevalence of smog, investigated its causes, and analyzed city and neighborhood maps.

Brief



To comprehend the reasons behind traffic congestion in their vicinity, the students constructed a miniature representation of the local buildings and streets. Additionally, they observed car movements at various times throughout the day while keeping track of car numbers.

Research



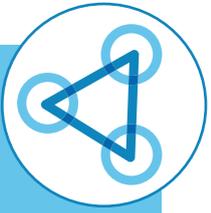
The research aimed to identify peak traffic congestion periods near their school, ascertain whether car volume affected air quality, and determine the locations with the highest air pollution levels.

Create



The students devised a measurement system for monitoring PM2.5 and PM10 dust concentration using the Micro:bit microcontroller. Once they identified the busiest hours, they constructed devices with the microcontroller to measure particulate matter concentration in the air. The measurements were carried out in the immediate vicinity

Share



To raise public awareness, the students initiated a campaign to share their research findings. They established a correlation between high air pollution and heavy traffic in the area. Moreover, they encouraged parents and residents to opt for public transportation, carpooling, and cycling.



Photo from the Polish hub: Copernicus Science Centre

4. The Navigator

The **Navigator** is a web-based platform designed to assist teachers and educators in navigating the Open Schooling landscape and it's **available in 10 languages**: English, Greek, Spanish, Hebrew, Hungarian, Dutch, Polish, Portuguese, Romanian and Swedish. With the Navigator, you can access downloadable materials, explore learning scenarios, and embrace the power of open education.



How to get started

1

Access the **Navigator**, you don't need an account to use the Navigator and its tools.

2

Choose between **Learning Scenarios and Learning Units** based on your teaching goals. If you want to start small then it would be ideal to start with a Learning Unit.

3

There are **16 Learning Scenarios** that you can choose from. Each Learning Scenario consists of the stages of Brief, Research, Create and Share.

4

Each section consists of a **summary and information on What, Who, Where and With**. These sections would give teachers more context and information on how they could implement these Learning Scenarios.

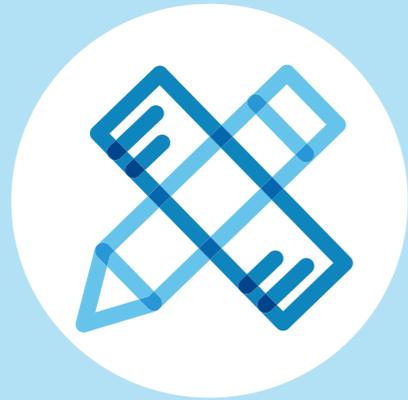
5

You can also specifically **access Learning Units based on your goals and objectives**. If you want to only engage in a research project or create an artifact that students can share, focusing on a particular topic you can do so by choosing Learning Units.

6

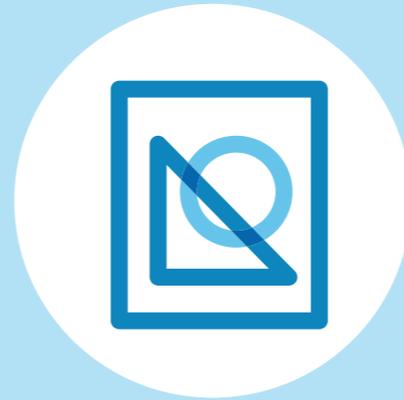
Once you have explored and experimented with this tool you can transition to building your very own Learning Scenario.

Build your own



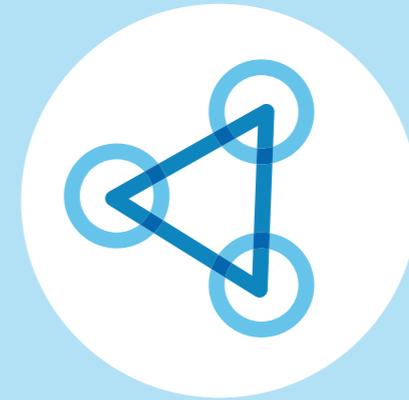
Customise an existing Learning Scenario

You can edit the title and main idea and play around with the Learning Units. This way you can make it fit your own context.



Create a new Learning Scenario or Learning Unit

You can note down a title and the main idea for your Learning Scenario and start building Learning Units.



Share your Learning Scenario

You can share the Learning Scenario by sending the URL generated by the Navigator. Alternatively, by clicking the ‘Download’ button, you can download the Learning Scenario and share the downloaded file any way that is convenient to you.

5. How to evaluate my students' experience?

Based on the teacher's goals and objectives, each learning scenario/activity has a section with "What students learn" and "Course Activities". Teachers can refer to these sections to understand the artifacts that students will produce after the activity.

Further, as the idea behind Open Schooling is project-based learning, the expectation after every activity is to create a tangible artifact that can be shared with peers and a community.



Photo from the Swedish hub: Tom Tits Experiment

Useful resources

[Evaluation and Sharing](#) chapter in the Make it Open Information Packs

[Make it Open Schooling](#) - Module 4: Assess Open Schooling Activities

How to implement an Open Schooling approach?

Non-formal learning organisations' section

“The Hub has a crucial role in supporting and motivating the changes needed to promote and introduce new methodologies in schools, and transform them into Open Schools”

Sara Mira, Centro Ciência Viva de Lagos

How to reach out to schools: considerations and strategies

Reaching out to schools, school staff, and school principals is a critical first step in initiating an Open Schooling project. Building partnerships with educational institutions is essential for the success of these initiatives, leveraging on strengths and addressing possible weaknesses.

In this section, we will explore strategies and provide tips to effectively engage schools building on the experience of the Hub leaders who took part in the Make it Open project.

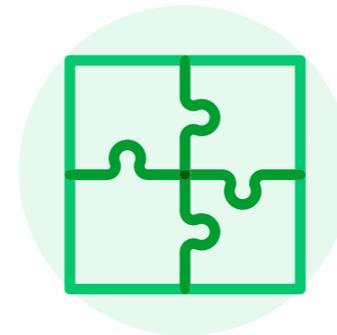
Strengths



Good reputation and credibility for hosting qualitative educational programs: non-formal learning organisations have a strong reputation for delivering high-quality educational experiences, which can enhance the credibility and acceptance of implementing an Open Schooling project.



Facilities to welcome teachers and students: non-formal learning organisations often possess dedicated spaces such as exhibition areas or maker spaces, which can serve as ideal venues for hosting project-related activities, fostering engagement among teachers and students.



Strong relation with existing networks: non-formal learning organisations have established networks and connections within their communities. Leveraging these relationships can facilitate the dissemination of an Open Schooling approach and attract potential collaborators and participants.



Ongoing talks/events/extra school activities: integrating an Open Schooling project into existing events and activities provides an opportunity to reach a broader audience, including existing contacts and new prospects.

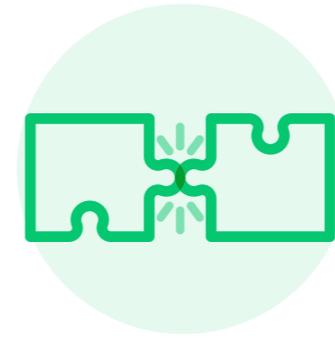
Weaknesses



Competition between activities offered to teachers: teachers are often offered a wide range of activities, leading to potential competition for their attention and participation in an Open Schooling project.



Limited budget for financial rewards: due to budget constraints, it may not be possible to provide financial incentives to participating schools. Alternative non-financial rewards and recognition should be explored to motivate and engage schools.



No connection with policy makers: lack of direct communication with policy makers can impede the project's scaling and integration into wider educational policies. Engaging umbrella institutions, such as school boards, departments of education, and municipalities, can help establish connections and garner support from policy-level stakeholders.



Lack of funding for external collaborations or additional materials: Limited funding may restrict the project's capacity to collaborate with external organisations or acquire additional materials. Creative resource allocation strategies should be devised to overcome this challenge.

Opportunities



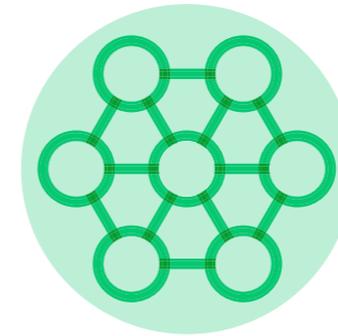
In line with school curricula: the Open Schooling approach envisages hands-on activities that address the strong need for practical and experiential learning. Finding alignments with schools' curricula and emphasising tools flexibility can enhance teachers' willingness to explore the Open Schooling approach.



Receptive teachers after restrictions: teachers, especially after the challenges imposed by restrictions and online learning, are more open to engaging in activities that promote hands-on experiences. Capitalise on their receptiveness!



Individual teacher participation: Open Schooling projects do not require the entire school to be active; instead, individual teachers can choose to participate. This flexibility allows for incremental adoption, lowering barriers to entry for interested educators.



Growing schools and education networks: the Open Schooling approach offers an opportunity to expand schools' networks, particularly for those with fewer opportunities. Engaging in collaborative initiatives can promote growth, foster knowledge sharing, and widen educational horizons.



Meaningful and relevant teaching: implementing Open Schooling projects can empower students by making teaching more meaningful and relevant. The hands-on approach and practical applications create engaging learning experiences.

Strategies

Seek support from umbrella institutions, such as school boards or departments of education, to facilitate outreach.

Promote the Open Schooling approach as an opportunity to explore alternative approaches instead of returning to the norm.

Start with a lighter path by focusing on a specific theme linked to ongoing school activities.

Prioritise activities that align with teachers' previous experience and curriculum relevance.

Adopt a comprehensive approach by reaching out to both teachers and school staff, combining top-down and bottom-up strategies.

Reach out to your teachers' mailing list and present them with a one-pager on the project.

Phone call with teachers you have an existing relationship with and set-up a meeting to explain the project.

Case study#3: Empowering Technasium Schools through the Open Schooling approach

A story from the ground by the Dutch Hub, WAAG

In 2019, Waag conducted a teacher training workshop in Amsterdam's Zuid-Oost neighbourhood, attended by teachers from Ir. Lely Lyceum and Montessori school De Regenboog. This location was chosen to engage educators working with less privileged learners in the city. Teachers' interest led to their active participation in the Make it Open project, with both schools on board from the proposal phase.

During the pilot phase, it became clear that Ir. Lely Lyceum, a Technasium school - a STEM-focused school in the Netherlands, had broader professional development needs. Stichting Technasium identified two specific needs within its community of teachers that joining Make it Open Hubs could help address: the need for more skills training in making and prototyping, and the desire for societally relevant projects for students.

Inspired by this, Waag focused on upscaling Open Schooling efforts in Technasium Schools. By starting with a motivated group of teachers, they aimed to attract others and drive adoption of the innovation.

To engage more schools, Waag organised an event and recruited teachers from the Technasium learning community. This group, along with Waag, co-created a topic for learning scenarios. These scenarios would later be developed by a larger group of teachers in their respective schools.

Key takeaways

Identify schools with genuine interest in Open Schooling.

Address specific skill gaps and desired outcomes for professional development.

Start with a motivated group of teachers to attract others.

Create opportunities for collaboration and co-creation among teachers.

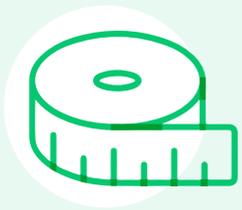


Circulaire buurt: Eindshow @ Hout- en meubileringscollege 2023, Waag. Foto: Anna Trap

How to train teachers to the Make it Open tools?

By equipping teachers with the necessary knowledge and skills, they can confidently integrate Open Schooling practices into their classrooms, fostering innovative and engaging learning experiences for students.

This section focuses on the significance of teacher training and provides practical tips for successfully conducting training sessions.



Tailored Approach: Before planning the training sessions, invest time in understanding the specific needs of teachers. Gather information about their familiarity with Open Schooling, expertise, and previous experiences. This will enable you to tailor the training content and delivery methods to meet their specific requirements effectively.

Adapt to Familiarity and Expertise: Consider the varying levels of familiarity and expertise among teachers regarding Open Schooling. Adapt the training sessions accordingly, providing different tracks or modules. This ensures that participants can engage at their own level and make progress based on their existing knowledge.

Online Workshops for Wider Participation: Consider organising online workshops to facilitate the participation of schools located in different areas of the country. This expands the reach and engagement potential of the training program.

Hands-On Activities: Incorporate hands-on activities into the training sessions. Provide participants with opportunities to explore and directly work with the tools available. Practical exercises and demonstrations enable teachers to gain confidence and develop a deeper understanding of how to integrate these tools into their teaching practice.

Curriculum Adaptation: Customise the training content to align with the schools' curricula. Identify specific areas or subjects where the Make it Open tools can be integrated effectively. Show teachers how these tools can enhance their curriculum objectives and facilitate student engagement and learning.

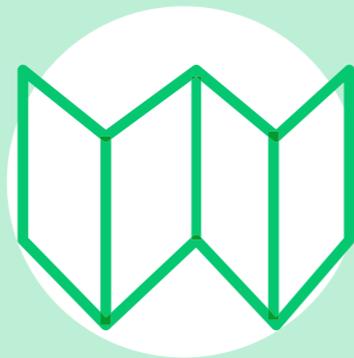
Q&A Discussions and Individual Support: Include dedicated Q&A sessions within the training program to address participants' doubts and questions. Encourage an open and interactive environment where teachers can seek clarification and share their concerns. Additionally, when possible, follow up the training sessions with individual meetings or calls to provide tailored support based on the specific needs and challenges of each participant.

How to help a teacher integrate the Learning Scenarios into their teaching practice?

A mini-guide from the Portuguese Hub:



1st step: Present the Navigator and the Learning Scenarios



2nd step: If there is no decision, suggest a Learning Scenario according to the grade, time available for implementing the methodology



3rd step: Work with the teacher on planning the Learning Units and deciding whether it will be done according the protocol or add some adjustments



4th step: Follow-up each session, and in some cases help the teacher in the classroom

How to support teachers on their Open Schooling journey?

Providing continuous support to schools and teachers throughout their Open Schooling journey is essential for successful implementation and sustained engagement. By providing ongoing assistance and creating a collaborative environment, teachers can be empowered to embrace this innovative approach and unleash its full potential in their classrooms.

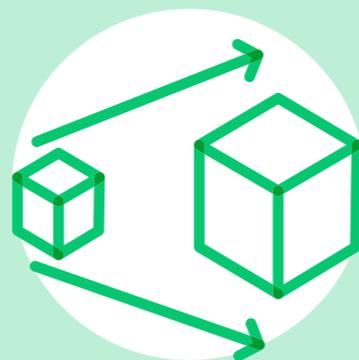
Let's delve into these strategies:

Collaborating with Teachers

To foster collaboration and empower teachers, consider the following strategies:



Give Schools Margin of Manoeuvre: Allow schools a certain degree of autonomy in implementing Open Schooling practices. Encourage them to adapt the approach to their unique context and needs, fostering ownership and innovation.



Start Small and Test the Approach: Advise teachers to begin with a manageable scope by testing the approach with a few Learning Units (LUs) initially. This approach enables them to gain familiarity and confidence before creating their own LUs.



Regular Online Calls and In-person Meetings: Organise regular online calls and in-person meetings with schools to discuss their progress, address any issues or challenges, and provide ongoing support. These interactions allow for open dialogue and personalised guidance.



Museum and Science Centre Visits: Arrange visits to museums and science centres as valuable resources for schools to implement Learning Scenarios (LSs). These visits provide teachers with inspiration, access to materials, and opportunities to engage with experts in the field.

Creating Teachers' Communities

To create a sense of community among teachers, consider the following approaches:



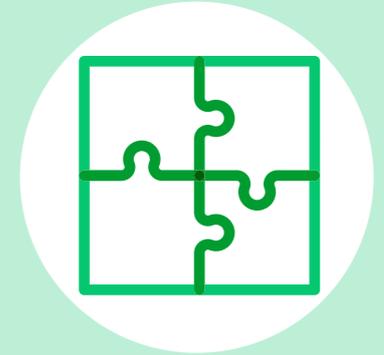
Organise Teachers' Meet-ups: Arrange meet-ups or workshops where teachers can gather, exchange experiences, and seek advice from both their peers and Hub leaders. These networking opportunities foster collaboration, shared learning, and mutual support.



Establish a Slack Group: Set up a dedicated Slack group for teachers adopting an Open-Schooling approach. This online platform allows for ongoing communication, resource sharing, and peer-to-peer support.



Create a Microsoft Teams Room: Set up separate channels within the room, corresponding to each active Learning Scenario used by teachers. This organisation facilitates focused discussions, resource sharing, and collaboration.



Facilitate Cross-School Collaborations: Encourage collaboration between teachers and students from different schools who are working on similar topics or themes. Arrange joint activities, virtual exchanges, or collaborative projects to foster shared learning experiences and promote a sense of interconnectedness.

How to engage with external partners?

Engaging external partners is a crucial component of the Open Schooling approach, which places great value on forging connections within the community, including industry and civil society, policymakers, researchers, and more. Collaborating with external partners brings a multitude of benefits, such as enhancing the learning experience, expanding students' horizons, fostering innovation, and promoting real-world relevance. By tapping into the expertise and resources of external partners, open schooling projects can create meaningful and impactful educational experiences.

To effectively engage with external partners, here are practical tips to follow:

- 1 Dissemination and Share Success Stories:** Showcase your achievements to attract external partners and inspire collaboration.
- 2 Leverage Existing Networks:** Utilise connections with museums, science centers, universities, and other institutions to facilitate partnerships and broaden your project's reach.
- 3 Engage Policymakers:** Present your project to policymakers, such as government officials and policymakers in the education sector, to gain support and advocate for the importance of Open Schooling.

- 4 Collaborate with Education Stakeholders:** Connect with education stakeholders, including school administrators, teachers' associations, parent-teacher organisations, and local education boards, to involve them in your project and garner their support.
- 5 Organise Stakeholder Events:** Host events that bring together educators, industry representatives, researchers, and community members, fostering collaboration.
- 6 Visit Maker Spaces and Creative Hubs:** Connect with innovators, entrepreneurs, and organisations focused on hands-on learning and creativity.
- 7 Collaborate with Non-Profit Organisations:** Establish relationships with organisations connecting schools and companies, leveraging their expertise and networks.
- 8 Align Goals and Vision:** Ensure the objectives of external partners align with your project's vision and goals before pursuing collaboration.
- 9 Clarify Roles and Expectations:** Establish clear roles and expectations for all parties involved, ensuring effective teamwork.
- 10 Enhance Communication Skills:** Offer workshops to teachers to improve their communication skills when engaging with external partners

Useful resources

SALL practical guidance and training materials for the engagement of school living labs with stakeholders. Take a look on page 6 for an overview and then go deeper into the materials!

SALL "Onion Model". Look at partners inside the school, among the teachers/students' relatives and then beyond

How to engage with parents?

Engaging parents is a vital aspect of Open Schooling, as it fosters a collaborative relationship between educators, students, and families. When parents are actively involved in their children's education, it enhances learning outcomes and creates a supportive learning environment. By utilising various channels and strategies, schools can effectively engage parents and promote their participation in open schooling initiatives.

5 ways for a successful engagement:



School Events: Organise events where parents can actively participate and see their children's learning progress, such as conferences, open houses, and showcases.



Effective Communication: Use newsletters, closed social media accounts, and online platforms to keep parents informed about open schooling activities, student achievements, and opportunities for involvement.



Tap Parent Expertise: Encourage parents to share their professional knowledge and skills through workshops or guest speaking, enriching students' learning experiences.



Collaborative Development Talks: Facilitate discussions between parents, students, and teachers to review student development, project outcomes, and individual learning goals.



Broaden Involvement: Involve parents in school-wide initiatives and events, fostering a sense of community and shared purpose.

Case study#4: Bridging Science, Families, and Perspectives:

‘Physics Everywhere’ at IES Ortigueira

A story from the ground by the Spanish Hub, MC2

At IES Ortigueira (A Coruña), a school located in a small peripheral town, surrounded by a rural environment, “Physics Everywhere” Learning Scenario took center stage. “Physics Everywhere” harmonised with the technology subject curriculum and was adapted to align more closely with the official curriculum. The project involved students in crafting playground models that applied physics principles to tangible designs, with each element being thoughtfully justified and paying tribute to influential women.

The pinnacle of this endeavor was a captivating exhibition, where students proudly unveiled their creations in the school’s library. Despite their initial nervousness, the students interacted with peers, neighboring schools, and, notably, their parents. Surprisingly, the session that had raised apprehensions among students—the one involving parents—proved to be a remarkable success. The pupils explained their projects, the things that worked and the ones that failed, and answered the visitors’ questions.

The exhibition provided a space for dialogue and interaction. Several parents remarked that this experience allowed them to see their children from a different perspective. Reflecting on the response from families, one teacher shared, “We are delighted with the response from the families. It is not usual for them to respond to the proposals we make to them. Perhaps a key element is that in this case we invited them with a concrete proposal (to come to the exhibition of projects), and to see the work of their daughters and sons.”

In the end, the “Physics Everywhere” project not only demonstrated scientific concepts but also served as an opportunity for parents to know their children’s activities better. It showcased the power of focused engagement strategies, particularly the act of inviting parents to exhibitions, as a means to foster understanding, strengthen relationships, and enrich the educational experience. Parents International’s ladder of parental engagement in Open Schooling

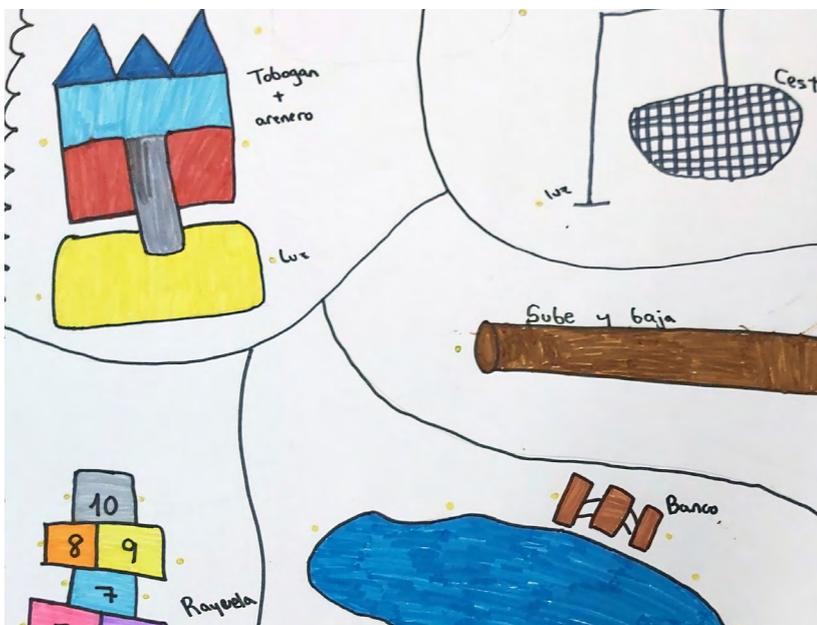
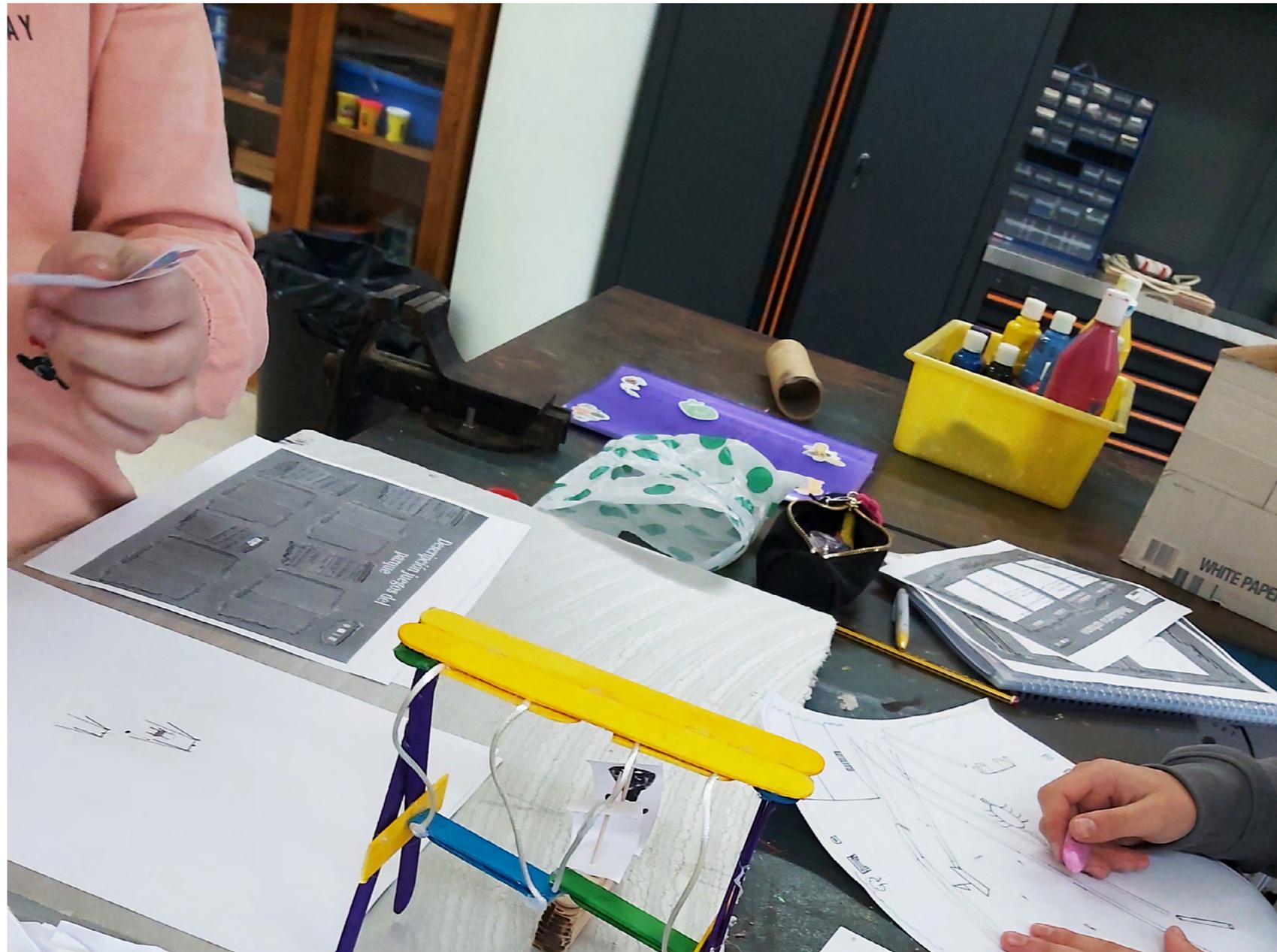
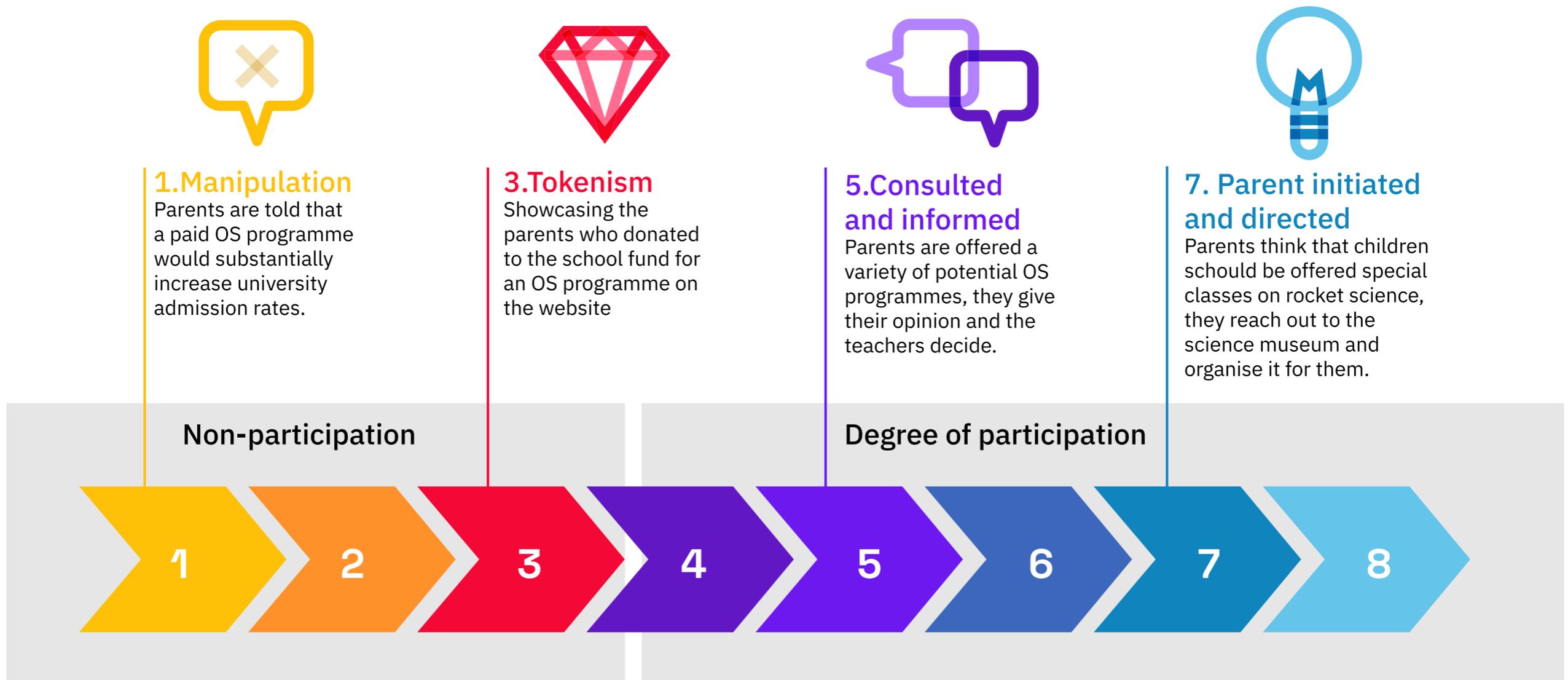


Photo from the Spanish hub: Museos Científicos Coruñeses

Parents International's ladder of parental engagement in Open Schooling



Get inspired by the MiO hubs!

Waag / the Netherlands

Core of teachers and Waag maker educators co-created the base assignment for all teachers, based the ambition in the Centrinno project: boost circular economy and working with makers and craftspeople. Then many teachers adopted the assignment for their neighborhood and students. The best 12 student projects came together in the stakeholder event 1 year after co-creation phase started.

Forth / UK

Forth developed and ran an introduction and teacher training programme online. We acted as a content developer, trainer, broker and mentor. We adapted the MiO OS resources to UK curriculum fit with a focus on climate education and the British Science Week. We partnered with a national organisation and MiO schools joined The great Science Share.

Museos Científicos Coruñeses / Spain

We did not know what teachers could ask of us. Our non-formal education point of view gave them some new ideas and custom-made workshops. Teachers appreciated the high involvement and the better learning of the pupils, as well as the possibility for the families to understand and value this learning process.

Centro Ciência Viva de Lagos / Portugal

Centro Ciência Viva de Lagos introduced, in a local context, the tools developed for an OS approach and for the learning scenarios developed, linking each scenario and each unit with the needs and the curricular goals of each teacher. The hub acted as an element of motivation, preparation and support.

SciCo / Greece

SciCo led an open call for schools and used the platform of the Athens Science Festival in order to present the project's scope and its basic tools. SciCo helped teachers finding external experts, creating networks between schools, translating material, answering potential questions.

Tom Tits Experiment /Sweden

The Swedish hub provided a local context to the learning scenarios by aligning them with national curriculum goals and helping schools connect with local experts and Swedish-language resources. We were also actively engaged in classroom workshops and sent materials to schools that were further away.

Copernicus Science Centre / Poland

Copernicus Science Centre actively engaged schools and educators by conducting training sessions, aligning learning scenarios with the national curriculum, and connecting them with local experts and resources. Furthermore, the hub presented the project during the inauguration of the new Copernicus Revolution Lab, expanding its reach and impact.

Mobilis/Hungary

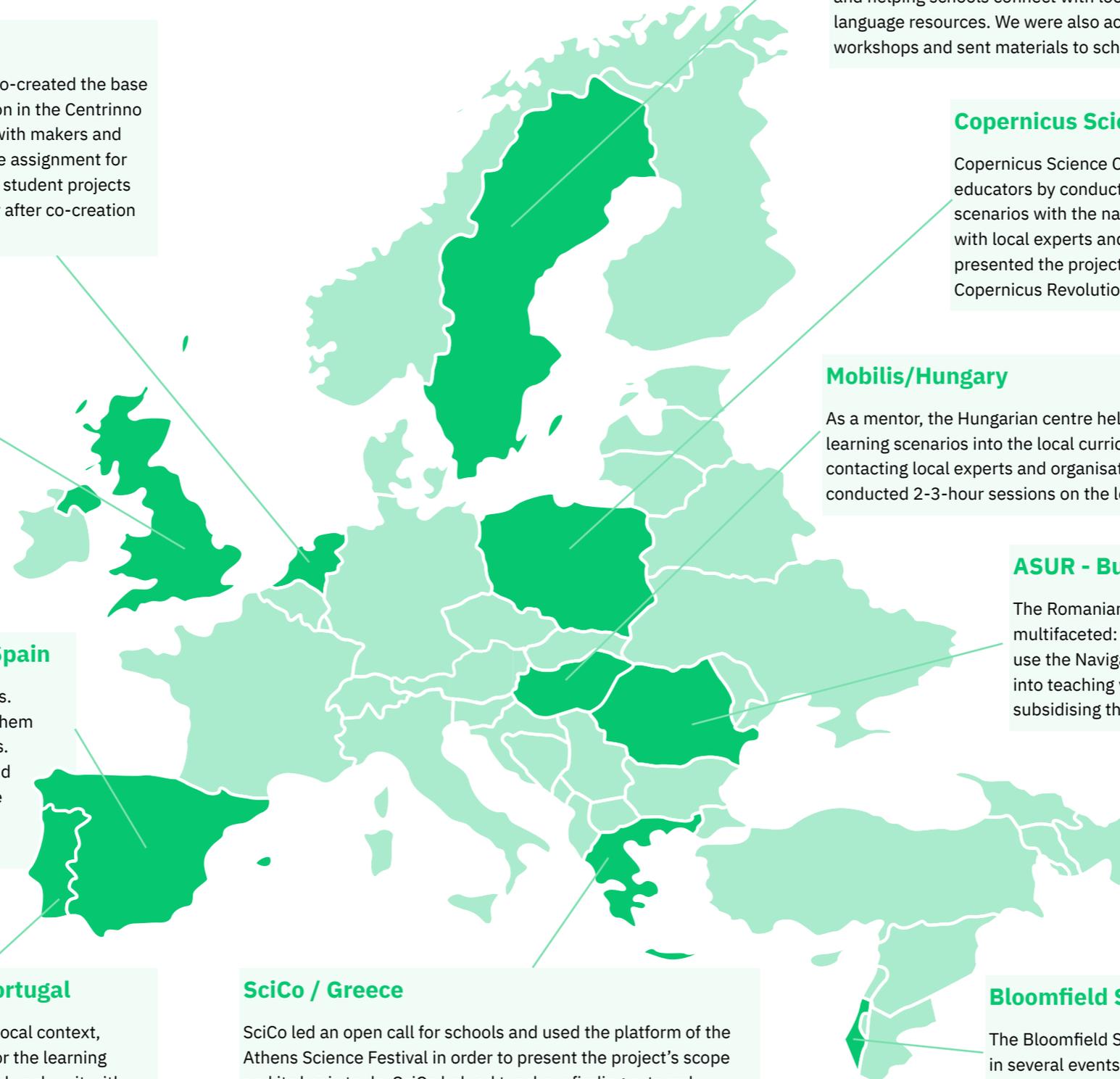
As a mentor, the Hungarian centre helped to integrate the learning scenarios into the local curricula. It also helped contacting local experts and organisations. The centre also conducted 2-3-hour sessions on the learning scenarios.

ASUR - Bucharest Science Festival / Romania

The Romanian hub support for schools and teachers was multifaceted: we started by training teachers on OS and how to use the Navigator, then we moved on, providing practical insight into teaching various LS, helping schools organise field trips and subsidising them.

Bloomfield Science Museum Jerusalem / Israel

The Bloomfield Science Museum Jerusalem promoted MiO in several events at the museum, national conferences, and educational innovation centres. The hub offered free visits to the museum to make the learning more open. It also carried out a lot of "maintenance" work with phone calls and emails in-between meetings.



Introducing the Community Engagement Leader: Fostering Open Schooling for the Future

Drawing from the valuable insights of the Make it Open project and recognising the growing imperative to integrate innovative educational approaches like Open Schooling, we find ourselves envisioning the emergence of a new professional figure: **The Community Engagement Leader**.

Intimately familiar with the unique dynamics of the local community, the Community Engagement Leader is a unique example of connection and understanding. They possess **in-depth knowledge of both formal and non-formal education offers and ecosystems** and operate as a skilled networker, capable of identifying promising opportunities and recognising talents. However, their role transcends that of a mere scout; they serve as an essential filter and quality checkpoint, ensuring that only the most suitable and impactful initiatives are introduced to the school setting.

Their superpower? Social connection. Armed with the ability to foster genuine relationships, the Community Engagement Leader acts as a bridge between the school system and the key actors within the community capable of mobilising and networking them. This mix of interpersonal skills and genuine connections empowers them to effectively advocate for Open Schooling, aligning stakeholders with a shared vision of educational innovation and community well-being.

The Community Engagement Leader acts as a facilitator **capable of imagining educational paths that exploit the opportunities offered by the local community and designing Open Schooling journeys** outside the traditional classroom. By facilitating education beyond the school walls, they open new doors of exploration, discovery, and growth, enabling students to thrive as adaptable and empathetic learners in the real world enabling them to address local and global challenges.

They possess in-depth knowledge of both formal and non-formal education offers and ecosystems and operate as a skilled networker, capable of identifying promising opportunities and recognising talents.

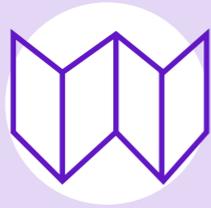
Central to their role is the creation of a robust network, one that forms the backbone of Open Schooling. This network serves as the foundation for peer learning and support, forging synergistic connections between educators, learners, parents, community organisations, and local influencers. The network they create plays a crucial role remaining resilient and responsive to address any challenges that arise, adapting to meet the evolving needs of the community.

Key Responsibilities:



Community

Engagement: Forge connections with various actors in the community, including educators, local organisations, industry and civil society representatives, identifying opportunities and talent.



Learning Journey

Design: Curate unique learning experiences that draw from both formal and non-formal educational settings, empowering students to become well-rounded, socially engaged learners.



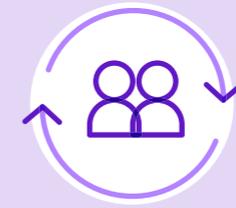
Guidance and

Facilitation: Serve as a mentor and guide, supporting schools and students in their learning journeys while nurturing their ability to collaborate and effect positive change.



Empowering Change-makers:

Instill in students the belief that they can make a difference by addressing local and global challenges through their learning experiences.



Mediation and Collaboration:

Skillfully act as a mediator, facilitating communication and cooperation between various community actors, ensuring synergy in various educational initiatives.



Quality Check:

Implement a rigorous quality check process to ensure that all learning resources and opportunities brought into the program are relevant, meaningful, and align with the educational objectives.

This publication emerges from the EU-funded project Make it Open: a gateway to open schooling where schools become key community actors and students perceive themselves as change makers.

The project was carried out by a consortium of 13 partners from 12 countries.





Open Schooling together



OStogether



www.makeitopen.eu

