



**OPEN  
SCIENCE  
HUB**

**EMPOWERING CITIZENS  
THROUGH STEAM  
EDUCATION WITH  
OPEN SCHOOLING**

## **DELIVERABLE 4.4**

# **Report on Educator Training & Professional Development Activities**



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All partners

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## Reference

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<b>Abstract</b>	This document documents professional development workshops and trainings for teachers and other educators, offered by Open Science Hub (OSHub) partners.
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# REVISION HISTORY

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0.1	24.06.2022	All partners	All partners	Content Input
0.2	29.06.2022	Mairéad Hurley	TCD	Initial Draft
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0.4	30.06.2022	Mairéad Hurley	TCD	Final Version

# LIST OF ACRONYMS

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ACRONYM	DEFINITION
ULEI	University of Leiden
TCD	Trinity College Dublin
CCSTI	La Casemate
AE	Ars Electronica
FAB	Onl’Fait
SCICO	Science Communication – Greece
MFCR	Município de Figueira de Castelo Rodrigo
OSHub	Open Science Hub
OSHub-NL	Open Science Hub – The Netherlands
OSHub-IE	Open Science Hub – Ireland
OSHub-CH	Open Science Hub – Switzerland
OSHub-AT	Open Science Hub – Austria
OSHub-FR	Open Science Hub – France
OSHub-CZ	Open Science Hub – Czech Republic
OSHub-PT	Open Science Hub – Portugal
OSHub-GR	Open Science Hub – Greece
OSHub.Network	Open Science Hub Network
STEAM	Science, Technology, Engineering, Art, and Mathematics
WP	Work Package
CPD	Continuing/Continuous Professional Development

# EXECUTIVE SUMMARY

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## **This deliverable corresponds to D4.4: Report on Educator Training & Professional Development Activities.**

OSHubs work as mediators in each local community, where they support schools to become active agents for collaboration between families, universities, industry, local governments and civil society, positioning them as drivers for societal innovation and community well-being, by engaging in real-life projects where school and community needs are at the core of school projects. As such, a local OSHub is composed by their local team, a local management board – which consists of different stakeholder groups that are involved in all key processes and decisions of the local OSHubs – and their partner schools, with whom they work closely and in a manner that is aligned with their needs and context. Moreover, each OSHub is rooted on their local challenges, which can be of different nature, depending on the local reality.

In this deliverable, we provide a summary of the educator continuing professional development activities offered by OSHub partners, as well as any training, sharing and networking events aimed specifically at educators. Given the diverse nature of the OSHub structures, activities and projects in the different locations, the trainings are unique to each location, and were designed by the partners to respond to the needs of the local schools and educators, leveraging their own strengths as well as those of collaborating local stakeholders. Trainings were held both in person and online, indoors and outdoors. In many cases, trainings were for small groups, and took place on multiple occasions throughout the academic year, to support the teachers who had committed to participating in the OSHub project. In other cases (e.g. Austria, Switzerland) teacher engagement was of a shorter duration, and was designed to raise awareness of the OSHub project or the concept of Open Schooling to a wider group of educators.

In total, over 2000 contact hours of professional learning was delivered by the OSHub consortium. Open Educational Resources based on these professional development activities will be presented in OSHub Deliverable 4.5 (*Handbook of 20 OSHub.Net workshops & activities*), which will support other educators and education researchers to implement Open Schooling activities in diverse settings.

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# 1. INTRODUCTION

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## 1.1 Background: about OSHub.Network

The Open Science Hub Network (OSHub.Network), a consortium of nine partners across Europe, engages schools and local stakeholders in research and innovation as a tool for sustainable community development.

More specifically, the OSHub.Network is establishing a European network of community hubs – OSHubs, in communities that traditionally do not engage with research and innovation due to various barriers, geographical location, socio-economic status, or ethnic minority group background. OSHubs inspire, empower and engage citizens – from school children to senior citizens – in STEAM (Science, Technology, Engineering, Arts and Mathematics) learning and research opportunities, grounded on collaboration with societal agents.

As such, local OSHubs work as mediators in their local communities, positioning schools as active agents for collaboration between civil society, enterprises, research institutes, and families. This is performed by promoting an open schooling approach grounded in community-based participatory research practices: throughout this process, schools and communities identify local relevant challenges, which are then be transformed into relevant research and innovation projects, led by students and teachers, in collaboration with local stakeholders.

The OSHub.Network is developing a common methodological framework, that allows each OSHub to identify and analyse local needs, issues, opportunities and relevant actors, in order to address socio-economic, geographical, gender equity issues, and untapped growth potential. Inspired by the “Mission-Oriented Research & Innovation in the European Union”<sup>1</sup> approach, developed by Mariana Mazzucato, OSHub.Network will define a set of Open Schooling Missions, aimed at addressing local relevant challenges linked to the Sustainable Development Goals. These Open Schooling Missions will then constitute the basis for the creation and development of the open schooling projects, enabling real collaboration across communities. Importantly, to ensure diversity, inclusion and sustainability, in each OSHub location, there will be a local management board with representatives from local stakeholder groups – schools (including students), families, research institutes and universities, enterprises, industry, media, local governments, civil society organizations and wider society – which will be involved in all key processes and decisions regarding local OSHub programmes and initiatives.

By supporting local schools and communities with the tools and network to tackle relevant challenges, OSHub.Network aims to create local impact while simultaneously promoting an active global citizenship attitude, thus contributing to community development, innovation and well-being. To

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1 Mariana Mazzucato (2018), Mission-Oriented Research and Innovation in the European Union – A problem solving approach to fuel innovation-led growth’, European Commission, Retrieved from: [https://ec.europa.eu/info/sites/info/files/mazzucato\\_report\\_2018.pdf](https://ec.europa.eu/info/sites/info/files/mazzucato_report_2018.pdf)



encourage usage and maximise impact in Europe and beyond, all resources, products and solutions developed by OSHub.Network will be fully based on Open Standards, such as open education, open technology, open science, open hardware, open design and open architecture. Also, OSHub.Network will create an online platform to share OSHub expertise, resources, and best practices with all OSHubs, their partners and the communities they serve. To ensure the legacy and reach of the project, all OSHub.Network resources will also be shared on existing large online educational repositories, and relevant national networks and repositories.

Finally, OSHubs will develop a legacy and sustainability plan, and will work closely with local governments, to ensure that each local OSHub has the tools and resources to continue beyond the lifetime of the project, and that the Open Schooling approach is incorporated in the school vision and organizational structure.

By the end of the project, it is expected that the OSHub.Network will have impacted 25 000 students, 1 250 teachers and 4 000 members of the community, through involvement in more than 150 school-university-industry-civil society partnerships in open schooling projects and activities.

In the long-run, we envision OSHubs as education brokers in their local communities, supporting local school networks to incorporate Open Schooling in their vision and organizational structure, leading to sustainable quality of education. Most particularly, OSHubs will facilitate the bridge between the needs and realities of schools and their local context and resources, as well as brokering for implementing national/regional policies, passing along signals from schools when policies are failing and advocating for context-sensitive policies.

## 1.2 Objectives of this deliverable

OSHubs in partner locations have been described in a previous project deliverable (D3.2: Report on the usage) as taking one of three formats:

- **Education brokers** that facilitate the integration of Open Schooling in the school formal structure / curriculum (OSHub-IE, OSHub-PT)
- **Third place / makerspaces** that meet school and community needs in collaboration with local partners (OSHub-CH, OSHub-FR, OSHub-GR)
- **Facilitators of the establishment of new relationships** and processes between schools and partners aligned with school needs (OSHub-NL, OSHub-AU, OSHub-CZ)

In this deliverable, we provide a brief summary of the activities undertaken by OSHub partners to engage teachers and educators in training and professional development for the effective implementation and adoption of OSHub in their regions.

Because OSHub takes a slightly different format in each location and works with schools at different educational levels, it was decided by the consortium that it would be impractical to try to create a standardised approach to teacher CPD. Instead, the consortium reached a shared under-

standing of Open Schooling, and then applied this understanding to their local context to design their OSHub projects in collaboration with local Management Boards (described in D3.2), taking into account local challenges, strengths and opportunities. Alongside these projects, OSHub partners developed suitable CPD, training and support for local partner schools and teachers to test and implement the OSHub projects and activities.

This report outlines the approach to teacher professional learning and training taken in each partner location. Links to associated resources will be included in Deliverable 4.5 (*Handbook of 20 OSHub.Net workshops & activities*), which will be promoted widely as a Key Exploitable Result of the OSHub project, intended to be adopted by other educators and education researchers interested in recreating OSHub experiences. Hence, this report is a summary of the activities undertaken in collaboration with teachers across the OSHub.Network, rather than a set of resources.

## 2. EDUCATOR TRAINING & PROFESSIONAL DEVELOPMENT ACTIVITIES

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### 2.1 University of Leiden (Netherlands)

OSHub operated in the Netherlands by connecting university undergraduate students with schools, so that the students could provide disciplinary expertise and support for teachers, while also gaining hands-on experience working in the classroom. Consortium coordinator ULEI provided training for the students who had enlisted as tutors in the OSHub activities in the Netherlands, in advance of their placements in schools. This extensive programme was facilitated by a range of stakeholders, including primary school governance boards, university faculty, school teachers, external experts, as well as the OSHub project team.

Content covered an overview of the Dutch primary education system, inclusive education, personal and professional development, basics in pedagogy and didactics, giving feedback, and STEAM

education. Where possible, these topics were accompanied by examples from the classroom provided by collaborating teachers.

This extensive training was delivered for three cohorts of tutors, spread over multiple sessions, with 90 participants in total. The dates and duration of the sessions are given in Table 1.

Table 1: Dates and duration of ULEI training sessions for OSHub-NL tutors

DATE	DURATION (HOURS)
18.02.21	3
25.02.21	4
05.03.21	4
10.03.21	2
11.03.21	2
17.03.21	3
14.04.21	2
22.09.21	1.5
08.12.21	2

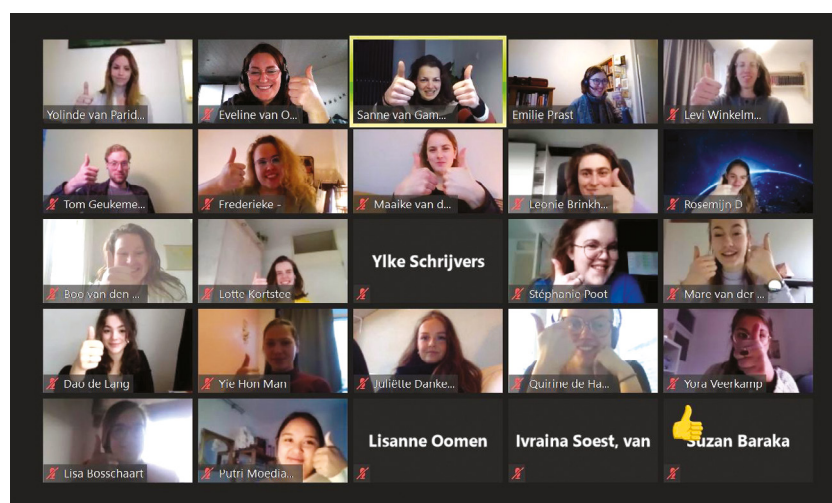


Figure 1: Attendees of a ULEI online educator training.

## 2.2 Trinity College Dublin (Ireland)

In the 2020-21 academic year, OSHub was delivered in a pilot mode in five Irish schools, in which lessons were delivered by the TCD project team in collaboration with teachers. The training for the collaborating schools was held online in August 2020 over 3 hours, and was attended by seven teachers. In the academic year 2021-22, TCD worked in depth with three schools who took on the independent delivery of OSHub. TCD provided training for the five involved teachers on August 26th, 2021, over 6 hours. In each of these trainings, the OSHub coordinators shared presentations to explain the OSHub project and network, the teacher handbook, the programme timeline for the school year, examples of workshop delivery and ideation techniques, and an overview of the evaluation process that the students and teachers would be asked to participate in.

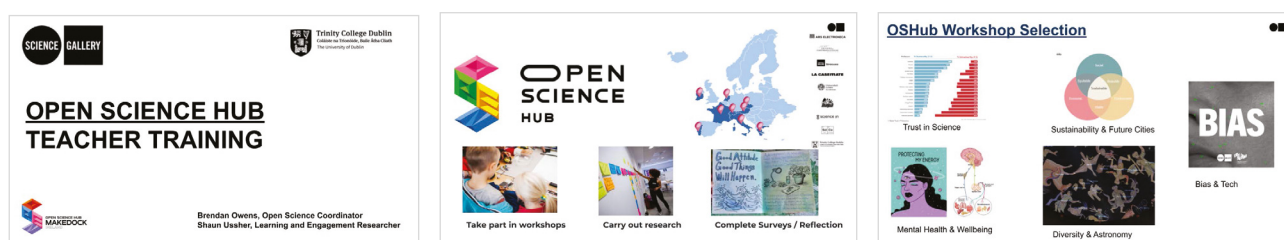


Figure 2: Slides from presentation to OSHub-IE collaborating teachers.

## 2.3 Le Casemate (France)

Partner CCSTI held 18 hours of training workshops for primary and secondary school teachers, over two days in September 2020 (10th/11th) and one day in September 2021 (10th). The objective was to support the teachers to use the Fab Lab to prototype the design of tools to teach mathematics to children aged between three and eleven years, and to test out how to use these tools in the classroom. The accompanying resource pack has been published as an Open Educational Resource on the La Casemate website: <https://fablab.lacasemate.fr/#!/projects/kits-pedagogiques-cycles-1-2-et-3-oshub>

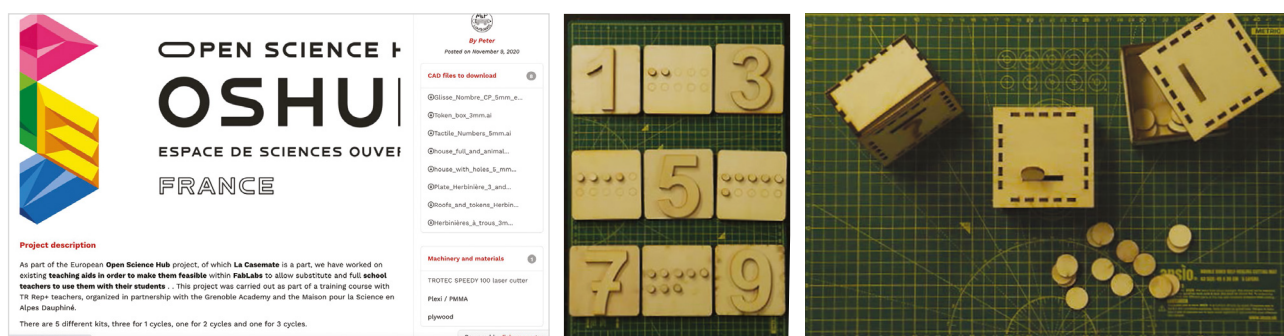


Figure 3: Open Educational Resource developed by La Casemate for primary school mathematics teachers.

## 2.3 Ars Electronica (Austria)

Three inspiration sessions for teachers and educators was delivered in the context of the education conference at Ars Electronica Festival 2021 by the workshop hosts of the online workshop „Generation Y“, „Climate Change: Tell your Own Story“ and „Self-care Zines“ which is currently being delivered for school classrooms through OSHub and the “create your world TOUR”. Beside the direct insight into the activity and its methods, the format allowed the participants to discuss all the aspects which were relevant for them concerning the cooperation between experts/artists and schools. These three-hour sessions were held on the 8th, 9th and 10th of September, 2021, and 54 educators took part.

Additionally, partner AE facilitated an educator networking opportunity as part of the OSHub project in the context of their *Education Conference at the 2021 Ars Electronica Festival*.

OSHub is one of many projects and partnerships related to STEAM education and Open Schooling for Ars Electronica, and these are channelled in their “European Platform for Digital Humanism”. Through the overall education conference, participants from this broad range of partnerships demonstrated how a New Digital Deal for education can empower citizens to transform their digital future, enabling them to critically question technologies and understand their deeper implications on the fabric of society. The conference offered manifold possibilities for educators, artists, researchers and industry representatives to network, exchange, discuss and get inspired. It had 264 live viewers during the conference.

The specific conference segment on Open Schooling was entitled „*A New Digital Deal for Online Open Schooling*“ which investigated and discussed new formats for Open Schooling in the context of the digitalisation of the educational system. The following sessions were offered:

- **A New Digital Deal for Online Open Schooling – Next generation ideas for online workshops from the Create Your World Tour**  
Wednesday, September 8, 2021 11:00 AM to 11:45 AM
- **A New Digital Deal for Transnational Collaboration – Co-creating open schooling projects driven by local-to-global challenges**  
Wednesday, September 8, 2021 1:00 PM to 1:45 PM
- **Open Schooling Co-Creation Workshop – Co-create open schooling projects to tackle local-to-global challenges**  
Wednesday, September 8, 2021 1:45 PM to 3:00 PM

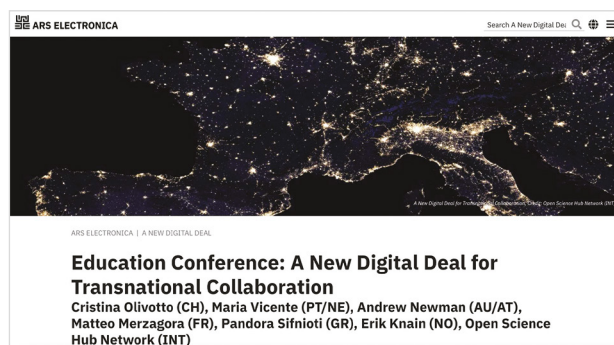


Figure 4: Open Schooling as part of the Festival Ars Electronica 2021.

## 2.4 Onl'fait (Switzerland)

Swiss partner FAB offered "Teacher Knowledge Sharing" sessions, in which they worked with teachers to advise them in preparing the OSHub activities they would lead in their schools. These sessions also connected teachers with external stakeholders who would support the delivery of the OSHub projects, and also provided an opportunity for teachers to simply exchange experiences and good practices related to Open Schooling. Eight teachers regularly took part in these Teacher Knowledge Sharing sessions throughout the academic year 2021-22, amounting to about 10 hours per teacher. Additionally, FAB presented OSHub at the plenary meeting of CFPP<sup>2</sup> (pre-professional schools) to approximately 60 teachers and 2 Deans.



Figure 5: Slides from presentation to OSHub-CH collaborating teachers.

## 2.5 SCICO (Greece)

OSHub-GR is centred around one school – the secondary School of Livadochori in Limnos. Partner SCICO met with the collaborating teachers on November 25th, 2021 for a four-hour co-creation session to plan for the academic year 2021-22. The resulting OSHub programme that was developed for the year involved using 3D printing, Arduino, App Inventor and Raspberry Pi. SCICO provided approximately 30 hours of training on these between November 2021 and May 2022. SCICO also developed materials and guides on 3D Printing and App Inventor for the teachers.

## 2.6 Município de Figueira de Castelo Rodrigo (Portugal)

OSHub – PT targets teachers of Citizenship and Development (from 1st to 12th grade) from the school group of Figueira de Castelo Rodrigo. Between November 2020 and May 2021, partner MFCR delivered a 25 hour training programme aimed at supporting teachers to incorporate Open

Schooling approaches in school daily life, through the development of collaborative projects. In total, 21 teachers participated in this training which utilised the local countryside as a hands-on learning environment.



Figure 6: Teachers from OSHub-PT exploring Open Schooling projects in the countryside around Figueira de Castelo Rodrigo.

On 6th November 2021, MFCR hosted a “Teacher Knowledge Sharing” event – an OpenSchooling Forum. This was a full-day event over 6 hours, aimed at promoting collaborative work between teacher and local partner organisations. 23 teachers and 10 external partners took part. The event description can be found at the following link: <https://www.dge.mec.pt/noticias/forum-escola-aberta> (in Portuguese).



Figure 7: Teachers from OSHub-PT along with local stakeholders participate in an Open Schooling Forum.

In March 2022, MFCR launched a series of events for teachers and the local community entitled “Conversas com a Educação”. The first of these was held on March 21st, 2022 over two hours, featuring the pedagogist José Pacheco as special guest, attended by 20 teachers.



# 3. SUMMARY

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In total, OSHub.Network offered over 2000 contact hours of professional learning and training for teachers and educators, including sessions delivered in person as well as online. These educator offerings from OSHub.Network partners were necessarily tailored to support local education stakeholders to test and adopt new approaches to learning through Open Schooling. As such, these bespoke trainings were dependent on local contexts and governance models, and the resources produced by partners are not necessarily widely replicable in other settings even within the same country, not to mention across Europe.

The next steps are to take the lessons learned from the different OS hubs which have been working on local scales in great depth with small numbers of educators, and creating more generalisable resources to allow the OSHub approach to Open Schooling to be adopted or scaled. These resources will be presented in Deliverable 4.5 (*Handbook of 20 OSHub.Net workshops & activities*), which will be promoted widely as a Key Exploitable Result of the OSHub project, intended to be widely used by other educators and education researchers interested in recreating OSHub experiences.





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