



**OPEN
SCIENCE
HUB**

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

DELIVERABLE 2.1

Training Workshop



Authors



Brendan Owens (TCD), Shaun Ussher (TCD)

Contributors



Maria Vicente (ULEI)

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Reference

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Contributors	Shaun Ussher
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Abstract	The Training Workshop report details the introductory training of effective tools for community building and co-creation with peer-to-peer learning. The report also justifies changes due to the COVID-19 situation.
Keywords	OSHub, Open Schooling, Training, Frameworks, Feedback, Stakeholder Analysis, Co-design, Co-creation

REVISION HISTORY

REVISION	DATE	AUTHOR	ORGANISATION	DESCRIPTION
0.1	31 July 2020	Brendan Owens	TCD	Draft Version
0.2	31 July 2020	Shaun Usher	TCD	Internal Reviewer
0.3	31 July 2020	Maria Vicente	ULEI	External Reviewer
1.0	31 July 2020	Brendan Owens	TCD	Final Version

LIST OF ACRONYMS

ACRONYM	DEFINITION
GA	Grant Agreement
CSA	Coordination and Support Action
DEI	Diversity, Equity and Inclusion
STEM	Science, Technology, Engineering and Mathematics
STEAM	Science, Technology, Engineering Art and Mathematics
HO2020	Horizon 2020
SISCODE	Society in Innovation and Science through CODEsign
OSHub	Open Science Hub
TCD	Trinity College Dublin
ULEI	University of Leiden
IH	Impact Hub
WP	Work Package

EXECUTIVE SUMMARY

The OSHub.Network Training Workshop is Deliverable 2.1 (D2.1) from the coordination and support action (CSA), OSHub.Network, grant agreement (GA) 824581. This report marks the initiation of WP2: Build an Open Schooling Community of the OSHub.Newtork project.

As outlined in the CSA, a Training Workshop was planned to be delivered to all partners, led by TCD and co-developed with other WP leads. Below are the original content aims for the workshop.

Deliver innovative introductory training in effective tools for

- Community building
- Co-creation
- Social entrepreneurship

All of these tools were to be designed to allow peer-to-peer learning.

Due to COVID-19, changes were made given the inability for partners to attend a physical workshop and the unstable backdrop to community building in a time of uncertainty. More details and justification for changes can be found in section 1.2.

Instead of workshops taking place onsite at Science Gallery Dublin (TCD) over three days, a series of three online training webinars was initiated that covered the topics of:

- Stakeholder Engagement
- Co-Creation Techniques
- Evaluation and Partner Support

As training tools were explored on a collaborative whiteboard space (Mural) with generally relevant or partner-specific examples, peer-to-peer learning was embedded in the format of these training webinars. All participants could revisit any of the whiteboard spaces (and still can) for continued reference and sharing of situations and best practice.

Rather than a conclusive end to the training workshop, these initial webinars have laid the foundation for ongoing training sessions and peer-to-peer sharing. The continuously developing COVID-19 situation led WP leads to agree on providing regular partner support through a series of meetings and workshops. These will be shaped by partner needs and attributes as explained in section 4, Further Actions.

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1. INTRODUCTION

1.1 Background of OSHub.Network

The Open Science Hub Network (OSHub.Network), and the associated network of community hubs – OSHubs, aim to 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.

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”** approach, developed by Marianna Mazzucato, OSHub.Network will define a set of Open Schooling Missions, aimed at addressing local relevant challenges linked to the UN’s Sustainable Development Goals (United Nations General Assembly, 2015). These Open Schooling Missions will constitute the basis for the creation and development of open schooling projects, enabling real collaboration across communities. Through this approach with OSHub mediation, schools can be active agents for collaboration between civil society, enterprises, research institutes, and families.

Importantly, to ensure diversity, inclusion and sustainability, each OSHub location will be held accountable to a local management board consisting of representatives from local stakeholder groups across schools (teachers and students), families, research institutes and universities, enterprise, industry, media, local governments, civil society organizations and wider society. The board 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 networks to tackle relevant challenges, OSHub.Network aims to create local impact while simultaneously promoting an active global citizenship attitude. All resources, products and solutions developed by OSHub.Network will be fully based on Open Standards to expand the reach and impact of the project. 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. All OSHub.Network resources will also be shared on existing large online educational repositories, and relevant national networks and repositories.

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 a sustainable high quality of education. In particular, OSHubs will facilitate the bridge between the needs and realities of schools and their local context and resources, as well as brokering and advocating for the implementation and maintenance of national/regional policies.

1.2 Purpose of Document

This document reports on the planning and delivery of the Training Workshop for all partners, including outlines for each component of the first two webinars and reference to the third (whose content falls mostly into WP5).

Initially the Training Workshop was due to take place in person at Science Gallery Dublin (TCD) from the 6-8 April 2020. As travel restrictions were brought into play during the planning stages, project partners agreed that such a format would no longer be possible and that an alternative would need to be formulated.

Taking plans associated with stakeholder analysis, co-creation tools, evaluation and the introduction of Open Science Hub as a social enterprise as a starting point, WP leads looked to repurpose activities from an offline to online setting.

Reflecting on the original content aims for D2.1, the following alterations were made:

- Community Building » Stakeholder Engagement tools (Training Webinar 1)
- Co-creation » Co-creation tools (Training Webinar 2)
- Social Entrepreneurship » Co-creation preparation tools (Training Webinar 2)

In terms of community building, the online frameworks developed encouraged partners to think about the current challenge presented by COVID-19 restrictions from which assumptions could be mapped about the potential for school participation. The tools leading on from this followed a journey of stakeholder analysis starting with evaluating school interest in challenge topics and ending with a framework to best enlist the participation and collaboration of other societal actors.

In terms of co-creation, the tools were developed taking into account feedback from the first webinar, leading to the integration and sharing of each partner's own situational challenges/ local challenge context. In this way social entrepreneurship was introduced through preparation frameworks, but not addressed as a standalone point. Further exploration of social entrepreneurship and OSHub.Network as an entity will take place in a future webinar, led by IH.

While not radically different, the delivery of the training relied on virtual interactions and a collaborative online platform unfamiliar to many partners. Therefore, the elongated timeline of workshop content delivery should be accepted as an inevitable byproduct of the workshop format and remote working.

2. TOOLS FOR ONLINE COLLABORATION

To best emulate the physical training tools, two online platforms were used for a combination of a shared workspace (mural.co) and video conferencing software (zoom.us).

After early testing by IH and TCD, Mural was chosen as a flexible whiteboard platform for creating frameworks, introducing existing WP assets, record-keeping and participation from partner participants.

The platform comes with design thinking templates, a voting mechanism, and importantly an unlimited capacity for anonymous visiting participants who can add to the workspace. In designing this training environment, warm ups and energisers were created with the dual purpose of training participants in the use of the platform as well as acting as icebreakers in the unusual online setting.

With ease of use and a breakout room feature, Zoom was chosen to complement Mural and allow for moments of discussion and sharing. The multi-modal nature of training did sometimes lead to a steep learning curve for facilitators as well as participants. Moving between tasks and discussions took more effort than in a shared physical setting.

The Mural platform also provided a mechanism for participation and collaboration prior to the training webinars themselves for planning purposes. Draft tools were created and reviewed by WP leads before creating a final canvas for each webinar.

After each webinar the completed canvases were exported to pdf format and could be revisited by participants in or out of the platform. These tools are also being exported individually for further use by partners in pdf format with instructions so that they can be used for their own project purposes outside of the Mural platform as part of the OSHub.net Blueprint. Partners who invest in a license for Mural could use the platform in a similar way to how they were trained, but involving their own situations and relevant stakeholders.

Feedback after each training webinar was very important so that adjustments could be discussed and made where WP leads agreed, ready for improved online training in the following webinars.

3. TRAINING WEBINAR OUTLINES



What follows is a detailed walkthrough of the principles behind each section of training across three online webinars including snapshots of the partner participation and feedback received.

3.1 Training Webinar 1: Stakeholder Engagement

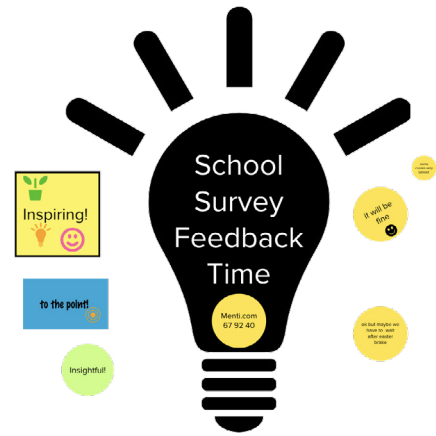
In this initial webinar, TCD led the session online using the online platforms Zoom and Mural as a first attempt to convert in situ plans for training to online collaboration. The webinar was designed to approach challenge identification within hubs, followed by school engagement and stakeholder mapping, before engaging targeted stakeholders for engagement with the challenge identified by the hub and school. The full Mural board can be viewed [here](#).

3.1.1 Schedule

WHAT?	WHEN?
Introduction	10:00
School Survey Discussion	10:30
Introduction to OS Hub CANVAS	11:00
Coffee Break	11:15
School Analysis	11:45
Stakeholder Analysis (Part 1)	12:15
Lunch	13:00
Stakeholder Analysis (Part 2)	14:00
Feedback Time	14:45
End	15:30

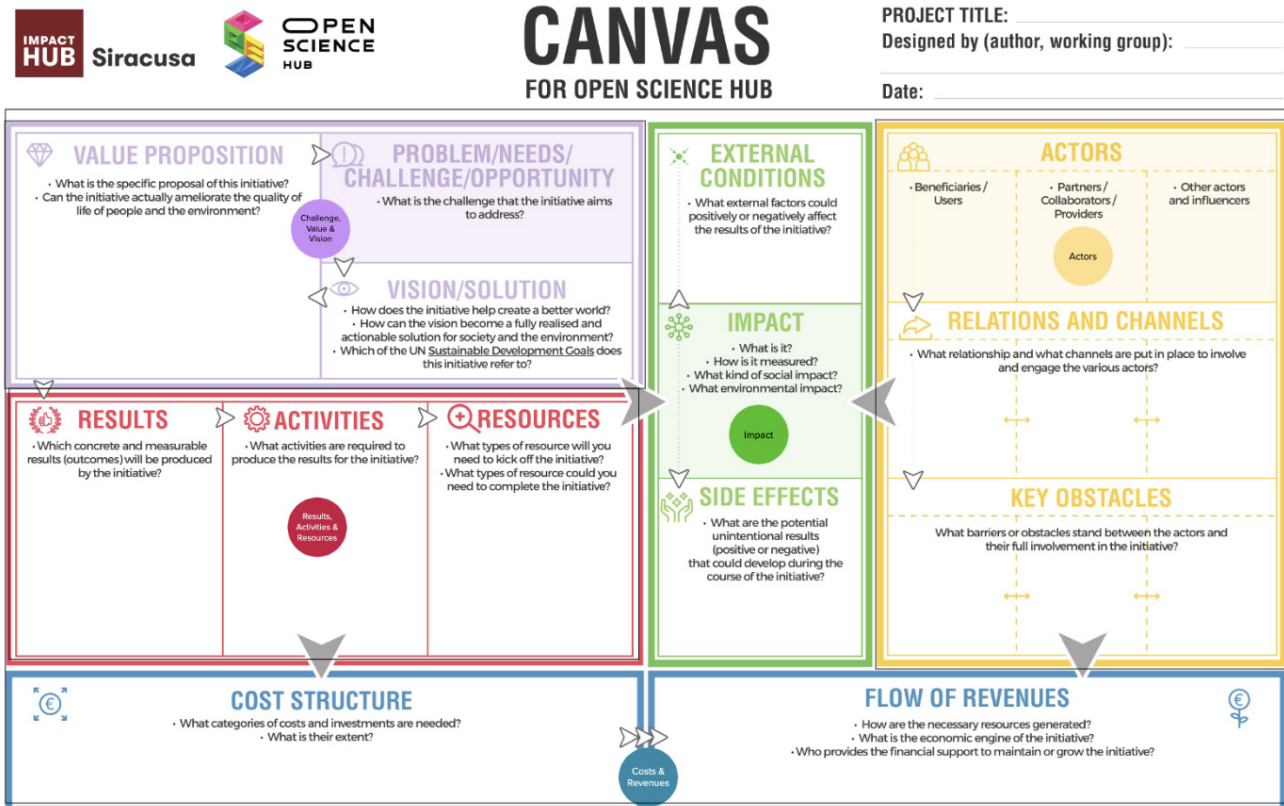
3.1.2 Outline naming conventions used

Before moving to the main topic of the webinar, time was given to provide feedback on a draft survey that was later sent to schools. The purpose of this survey was to ascertain school needs given the pandemic situation. Building on feedback over the Basecamp platform, a Mentimeter survey was conducted during the workshop, the results for which can be seen [here](#). This survey gathered partner school engagement status and probed the potential for near-future school engagement.



3.1.3 Introduction to OS Hub CANVAS

The floor was given to Impact Hub Siracusa (IH) to introduce the Open Science Hub CANVAS to offer the perspective of each OS Hub as a social enterprise, to be explored further in a future training webinar.

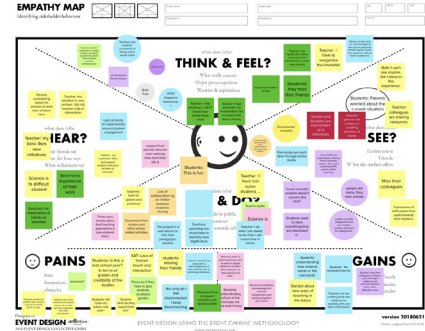


3.1.4 Challenge Topics

In light of the pandemic landscape, a previous local challenge case study was exchanged for challenges related to COVID-19. These suggested challenges acted as the ingredients for the later steps of the training webinar using example sets of stakeholders from partners TCD (Ireland) and MCFR (Portugal).

3.1.5 School Analysis

For this section of the webinar two frameworks were explained and worked through by participants. The first mapped assumptions about the ability for schools to work with OSHubs on a graph of certainty vs. risk (feasibility). The second involved creating an empathy map for schools. These tools were pitched to the consortium as preparation work before engaging schools to decide together on a local challenge for students to work on.



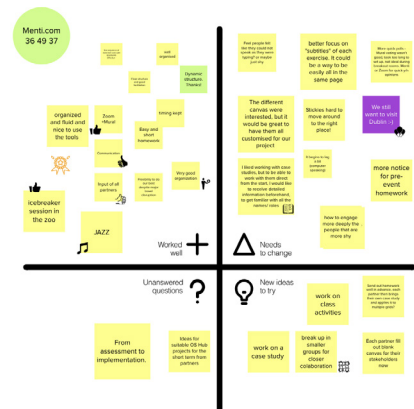
3.1.6 Stakeholder Analysis: (influence vs. interest and empathy mapping)

Following on from a school analysis, webinar participants were split into breakout rooms and supplied with two example stakeholder pools (TCD, MCFR) ensuring that each breakout room had a representative from each institution to give context to the stakeholders. The exercises here were split between an influence vs. interest grid and empathy mapping leading to a small framework to produce a project pitch to stakeholders relevant to the local challenge.



3.1.7 Feedback

Feedback was gathered via digital sticky notes on the Mural and through a mentimeter survey, which can be found [here](#). Generally feedback was positive with appreciation for flexibility to offer dynamic exercises despite being geographically separated. Constructive criticism included having more time for discussion and interaction away from Mural, as well as the use of case studies relevant to each partner.



All documentation associated with training webinar 1 including video recording, mural templates, and feedback was archived in a google drive folder found [here](#).

3.2 Training Webinar 2: Co-creation Techniques

In the second webinar, TCD led the session online again using the online platforms Zoom and Mural. The second webinar was designed to approach co-creation with schools for a short-term engagement before entering the summer holiday period. The training included some elements from the SISCODE toolkit (GA 788217) as well as best practice sharing on co-design from TCD experience. Consortium partners were asked to gather information related to their own local challenges as case studies to use within the training webinar. This was to address feedback from the first webinar to make the training as applicable as possible to individual partner situations. The full Mural board can be viewed [here](#).

WHAT DOES A HAPPY COLLABORATIVE SPACE LOOK LIKE?



3.2.1 Schedule

WHAT?	WHEN?
Introduction	10:00
School Engagement Discussion	10:15
Introducing Co-Creation and Breakout 1	10:45

Coffee Break	11:15
Breakout 2	11:30
Co-Creation Session Guidance	12:00
Feedback time and next steps	12:45
End	13:00

3.2.2 School Engagement Discussion

Before moving on to the main topic of the webinar, some time was dedicated to receiving updates on school engagement through a Mentimeter survey (results [here](#)), some of which related to a pre-work exercise designed to gather individual partner case studies to work through in this webinar.

3.2.3 Challenge Contexts

For this series of exercises participants were split into breakout rooms and used their individual local challenges as the inputs for the frameworks. In using the SISCODE co-design toolkit they filled in preparatory work on their local, lab and policy contexts from their own knowledge. By working through these frameworks as much as time permitted it was hoped that the consortium could do some useful work towards engaging schools in a project in their locality before the summer holidays. There was no ultimatum to complete all exercises at the webinar, just to try the tools out with real-world, relevant examples. The local challenge here varied in scope and scale, this could lead hubs to start their journey with schools with a very broad challenge topic(s) or some more specific challenges.

3.2.4 Co-Creation Guidance

Back in the main plenary session, everyone was guided through an example challenge scenario (mental wellbeing during isolation) in SISCODE frameworks for ideation. Rather than just the hub teams working on these, it was emphasised that these tools should be used in co-creation, multi-stakeholder sessions with their local partners. Guidance and advice was presented in how to interrogate challenges with participants and how to prioritise ideas by participants while reducing a herd mentality. It was hoped that this left consortium members in the position to pursue some early attempts at co-design or co-creation of a short term engagement with schools, as well as preparing for future, larger engagements.

3.2.5 Feedback

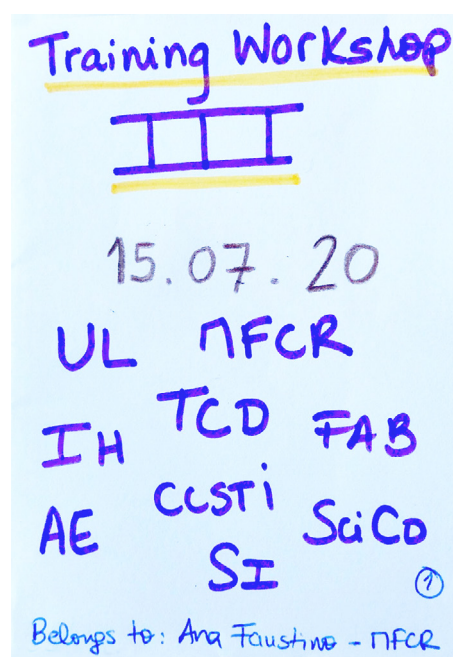
As in training webinar 1, feedback was gathered at the end of the session through a Mentimeter survey and stickies on a Mural feedback grid. Overall feedback was positive, with note given to improved timekeeping and the addition of partner-relevant examples to work through. Issues flagged

included more time needed for participant input and the fact that some of the breakout sessions included only one person as only one person from an institution was available, which hindered their participation in the Challenge Context series of exercises.

All documentation associated with training webinar 2 including mural templates, and feedback was archived in a google drive folder found [here](#).

3.3 Training Webinar 3: Evaluation and Partner Support

In the third webinar, TCD led the session over ZOOM communication and conferencing software. The content of the webinar was informed by Deliverable 5.1 (D 5.1) Feedback Forums which took place in month 5, in which the WP5 leads established a questionnaire that was sent to partners followed by one-to-one interviews with partners. Results of the feedback forums showed that partners believed there was great potential for collaboration within the consortium, however there has been no time allocated to collaborate with one another. Partners also described difficulty in understanding what others partners assets, needs and aims for the project are. Lastly, the third webinar was led by those leading WP5 Evaluation, and so the webinar was also set to involve presenting potential evaluation tools to the consortium. Throughout the webinar partners were encouraged to write a thought onto a zine, a tool that was later proposed as a method of evaluation for OSHub.Network. These notes can be seen throughout this document.



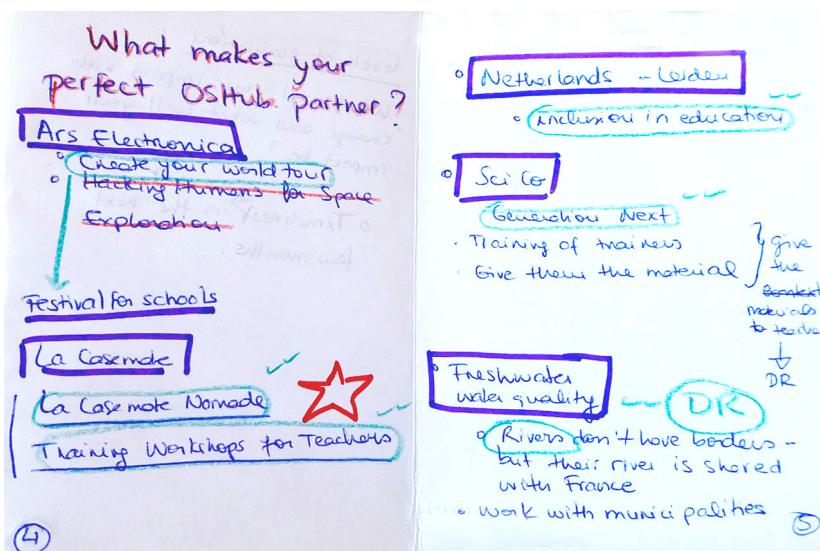
The schedule for the day was as follows:

ACTIVITY	RATIONALE	TIME (IST)	TIME (CEST)
Zine Making Introduction	We will be using zines to capture our thoughts and reflections throughout the workshop	8:05 – 8:15	9:05 – 9:15
Partner Presentation	Get to know the fellow partners in the network, their skills and what they want to learn	8:15 – 8:50	9:15 – 9:50

Break	15 Minutes of self care	9:00 – 9:15	10:00 – 10:15
Results from Partner Feedback	Hear results from feedback forums	9:15 – 9:30	10:15 – 10:30
Speed Dating	Meet all the partners to members and find your perfect collaboration?	9:30 – 10:00	10:30 – 11:00
Traditional Evaluation Tools	What levels of the project need to be evaluated and how can we do it?	10:00 – 10:15	11:00 – 11:15
Zine Evaluation	Experimental ways to evaluate student engagement & reflection	10:15 – 10:30	11:15 – 11:30
Wrap up Feedback	Zine reflection and next steps	11:05 – 11:20	12:05 – 12:20

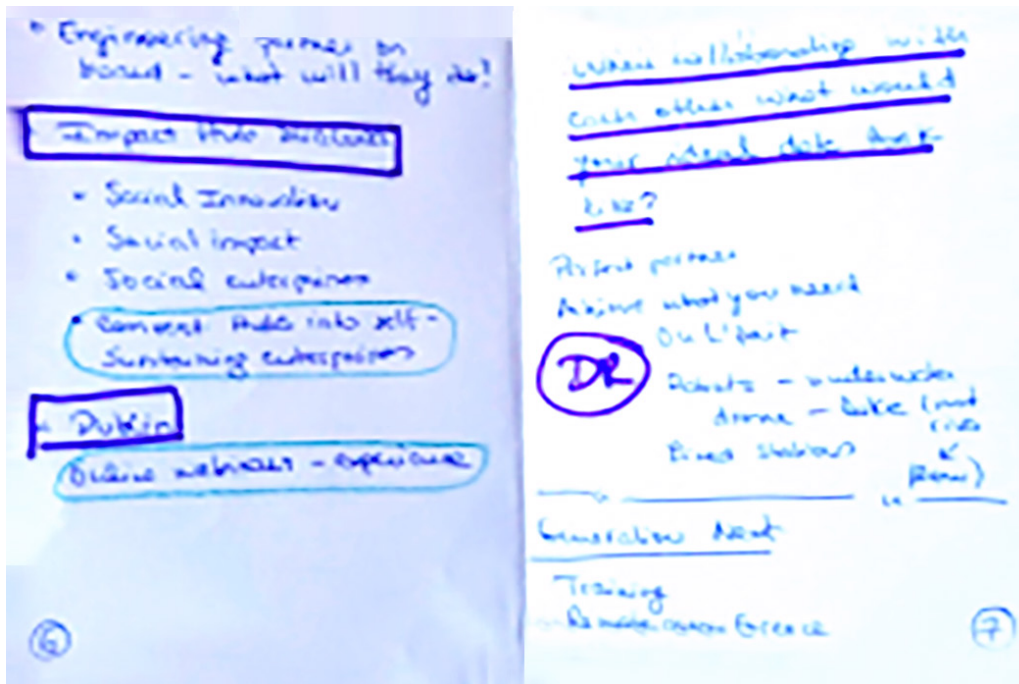
3.3.1 Partner Presentations

The webinar opened with partners delivering a 3 minute presentation using 3 slides. Partners were asked to present in relation to their role in OSHub Network i.e. partners were asked to present on their current work, assets and skills they can offer the consortium, what they wish to gain from collaborating with the consortium, and their hopes for their future OSHub. The aim of the partners presentation was to allow the consortium to familiarise themselves with one another. Partners were prompted to think about what partners could make strong collaborators in the future.



3.3.2 Speed Dating

Speed dating was an important part of this webinar, as it was a means to kickstart collaboration amongst the network. During the presentation partners were prompted to think about those who they would like to collaborate with in the future. Speed dating then allowed partners to ask each other further questions in relation to their work, what they presented and to establish meetings in the future. Speed dating took place in zoom, it included all 9 partners from the consortium, each getting to meet one another for 5 minutes each.



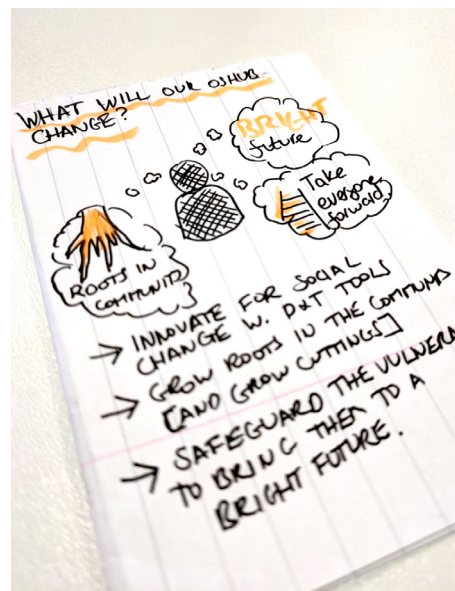
3.3.3 Evaluation Tools

The WP5:Evaluation leads TCD presented a potential toolkit for an holistic evaluation of the OSHub.Network project, this will feed into D5.4. The project would be evaluated at 3 levels, each one consisting of a unique set of tools. The first level will be the European network-wide level that consists of 9 partner institutions. This will evaluate using a series of questionnaires and interviews that would function as a progressive feedback mechanism. The second level is focused on the local OSHubs and each of their individual networks of stakeholders. This will evaluate how each OSHub has been established and how stakeholder relationships have developed. The third level will evaluate the individual OSHubs, investigating the student and participant experiences of each OSHub project using a series observation or reflection tools for teachers and facilitators alongside reflection zines/journals for students.



3.3.4 Zine Evaluation

The webinar concluded with a presentation of potential creative forms of evaluation using the medium of zines. Zines take the form of a self published book/magazine designed by the students, which can be guided by facilitators through a use of prompts. The format allows relationships between topics, themes, and contexts to emerge that is dependent on the learner. It is a method that encourages intentional play, both through materials they use and the process/style the learner chooses to use. Zines were offered as an evaluation tool as they offer the flexibility to capture the multiple aims OSHubs hopes to establish. Zines can be used to examine the ownership of knowledge students have by examining the depth of reflection. Alternatively they can be used to examine the scope of reflection by looking at who the students relate their reflection to, therefore observing students' perspective of sciences' relationship with society.



3.3.5 Feedback

Feedback was gathered from the webinar via a google form found [here](#). Feedback from the webinar was generally positive. Partners were appreciative of structuring the webinar based on previous feedback. Hearing from various partners and being able to establish connections was noted as a high point.

4. FUTURE ACTIONS

While the newly adapted training workshops have been generally successful in providing for the original training needs outlined in D2.1, the unknowns surrounding school participation in hubs and the role OSHub.net has to play in a new pandemic landscape have extended the training and support period beyond its original scope.

Taking into account feedback from all partners, WP leads have agreed that a regular programme of formal, semi-formal, and informal meetings to support partners is necessary. These are to include further training similar to the previous webinars alongside consortium evaluation and pairing of partners who can act as mentors for one another.

As the project builds towards Deliverable 2.2 (Initiation Events, now moved to M13), well-matched, close support and free exchange of best practice and case studies will prove to be invaluable in building strong community partnerships and finding the best way for hubs to facilitate co-creation processes, tackling local challenges and embedding open schooling principles in school structures.





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