Urban Science

Minutes

Warsaw 11th to 15th December 2017

The objectives of the meeting were to:

- Getting to know each of the partners and team members.
- Ensure a clear and shared vision for the project.
- Review and refine project objectives and delivery.
- Analysis project environment – partners, target groups, stakeholders, barriers, influences.
- Confirm project roles, tasks and leads for each output.
- Set up project systems – communication, M&E, etc.
- Develop project ownership amongst partners.

1. Welcome and Introduction

Our project includes partners new and old. We spent time at the start of the meeting to introduce ourselves and get to know a bit more about why we were at the meeting and our interest in Urban Science. This 'getting to know' each other continued throughout the meeting with shared lunches, evening meals and local visits.

2. What is Urban Science?

A short presentation was provided by Richard to remind everyone about the key elements of Urban Science. It was agreed we need to clearly define Urban Science and create a clear definition and narrative for teachers. This is discussed in section 5 below.

3. Expectations and Ambitions

We spent time reflecting on our expectations and ambitions of Urban Science; it is important to be clear what we as individual and organisations wish to achieve from taking part in the project. We also reflected on what our target groups might wish to gain from the project. The results are listed below; an edited version will be used in our Monitoring and Evaluation Plan.

Personal

- Pushing boundaries from cannot to can do (Lv).
- Met new people, experienced intercultural exchange and developed new networks (Hu, UK).
- Contributed to a mutual and cumulative knowledge building (Hu).
- Understood how science teaching works in the UK (UK).
- Learnt about group dynamics (Hu).
- Persuade teachers why they should do Urban Science and how easy outdoor science is (It).

- Young people recognise attractiveness of sciences (Lv, Bg).
- Practical links between curriculum and urban science (UK).
- New ideas for urban planning policy (Lv).

Our organisations

- Increased recognition for quality teaching and education development (UK).
- Involve more schools from cities in ESD (Lv).
- Deliver state-of-the-art educational content which makes others jealous (Bg).
- Improve and make our work more effective (It).
- Have a 'window' on other countries, practices and approaches (Hu).
- Improved management collaboration capacity (Hu).
- Strengthened links with business partners (Pl).
- Opportunities to co-create with and learn from others (Hu).
- Institutional development involving young people (Lv).

Teachers

- Greater collaboration, inter-disciplinary delivery and teamwork (Hu, UK, Pl).
- Teachers feel ownership of Urban Science (Hu).
- Teachers feel confident to step outside of their box (Lv).
- Learning modules that reduce preparation time for teachers (Bg).
- Learning modules that enable idea generation for improving healthy living (Bg).
- Teachers confident to link IBSE to their 'book' teaching (It).
- More teacher delivering learning outside (Hu, Lv).
- Teachers confident to discuss science and values (UK).
- Enjoy working with Urban Science materials (Hu).

Students

- Understand what responsible science is like (Hu).
- Inspired to take care of their cities and have influence on their local environment (Pl).
- Become autonomous and creative individuals with responsibility (empowerment) (Hu).
- Practical experiments and take 'scientific' decision linked with everyday life of young people (It, Bg).
- Able to apply systems thinking to understand complex problems (UK).
- Express passionate views about the urban communities they want (UK).
- Tools for 'reading' the conditions for healthy living in the city (Bg).
- Students excited about science and find science achievable (Lv).
- To have fun (Hu).
- Students engaged and motivated to continue to study science.

Others

- Mainstreaming Urban Science (Hu).
- Make new links e.g. Italian Association of Science Teachers, Science Museum (It).
- Creating links between organisations e.g. ASE and SEEd (UK).
- Recognition from Association of Science Educators for Urban Science (UK).
- Influencing policy on ESD (UK).
- Municipalities/ministry integrate Urban Science into curriculum (Lv).
- Principles of circular economy integrated in to urban planning (Lv).
- Present the power of citizen's involvement as a tool to sustain cities development (Pl).
- Have lots of practical experiments to link students to everyday life and science (Bg).

4. Challenges and Opportunities

Like all projects we will face barriers to success and opportunities that support us. Identifying these early in the project enables us to plan ahead to reduce barriers where possible and fully utilise the opportunities. Understanding these now will help guide our research in Intellectual Output 1 and the Urban Science Framework in Intellectual Output 2.

We will review this at each partner meeting as part of our Dynamic Learning Agenda.

CHALLENGES:

Outside our control:	We can influence but not control:	Within our control:
• Austerity means other stakeholders unable to join/support us (UK). • Over-crowded curriculum (UK). • Education system reform (Pl). • Lack of state institutional support (Bg). • Low level of innovative spirit amongst teachers (Bg). • Limited contact time with teachers (UK).	• Lack of sustainable development understanding amongst teachers (UK). • Creating a shared vision (Hu). • Outdoor learning has 'low' status (UK) – evidence? • Mainstreaming and raising awareness of Urban Science (Hu). • Narrow understanding of outdoor learning – more than just sensory-based learning (Lv). • Teachers move schools to improve career (It). • Interdisciplinary learning still a new challenge (Pl). • Politicians restrict NGO access to schools – maybe outside our control? (Bg). • Active teachers more interested in personal Erasmus+ projects (Bg). • Limited number of active teachers and limited time (Bg). • Limited number of 'active' students (Bg). • Limited curricula time (Bg).	• Keeping teachers motivate and recognising their efforts (Hu). • Not just monitoring state of urban environment, but working towards solutions too (It). • To make complex issues simple to understand without simplifying (It, Hu). • Clearly communicate what is Urban Science (It). • Provide support to enable teachers to deliver outdoor learning (It). • How to benefit from intercultural learning (Hu). • Providing clear scaffolding for teachers without over-burdening them (Hu). • Creating relevant, user-friendly and idiot proof assessment (Hu).

OPPORTUNITIES:

- We have (some) time and money from the EU (UK).
- Leverage SDGs for influence (UK).
- Private schools (Bg).

- Link with competitions (Bg, Hu).
- Young people are interested in sustainability (UK).
- Values and good experiences (Hu).
- IBSE is known, promoted and valued (UK).
- National curriculum reform (Lv).
- Context based learning more engaging (UK).
- Lots of links with other IBSE initiatives (UK).
- Connections with PON project (It).
- Active professional networks to draw upon (Hu).
- No pressure to create complicated (academic) publications (Hu).
- Able to work with teachers to create what they want and pilot it (UK, It, Hu).
- Use reflective and iterative process with teachers and others (Hu).

5. Understanding the project and planning implementation

Due to time pressures we did not carry out this activity as planned, and focused on developing a realistic timeline. That said, we did reflect on what Urban Science means to us and how we can start to explain it to our target groups; some partners said a clear definition will be important before they can engage with teachers.

Project Planning

We planned the project activities for the next 9 months in detail; tasks up until the next TPM are listed is section 10 below and details of ongoing activities are in the project gantt chart on our Google Drive.

Understanding the Project

We had a wide ranging discussion about IBSE (inquiry based science education), Urban Science and how we will develop ten modules which are relevant for each partner country. Urban Science has a number of general characteristics, which could be said to provide the 'flavour' of Urban Science:

- Hands-on – students learning from direct experience, co-creating learning based on their own interests and experience; avoiding textbook based learning.
- Inquiry based – using appropriate IBSE models to underpin learning processes.
- Urban sustainability – focusing on how urban areas can become healthy and sustainable communities both socially and physically.
- Solutions based – to use science as a means to support positive sustainable futures; to ensure that science is viewed as a positive tool to deliver the sustainable communities students want.
- Holistic – ensuring that science is not seen as isolated from other issues such as social sustainability and community values; ensuring specific scientific disciplines as seen as nested within other areas of science and society (a systems approach).

We attempted a (very) draft statement of the project as:

> *Science which maintains conditions necessary for life, and ensures cities provide culture, work and good lives.*

The statement refers to the 'type' of scientific thinking we wish to encourage. To be successful, science will need to be integrated with decision-making which encompasses values and considers environmental and societal needs.

With the above points in mind, we discussed potential Urban Science narrative; one potential emerging narrative is:

> *Imagine how your community will look in 20 year's time; imagine if the challenges of 2018 have been solved and your community is sustainable…what will it look like?*
>
> - *How will homes, public spaces, travel and work be designed?*
> - *How will decisions be taken?*
> - *How will all these elements link together and support each other?*
>
> *How can science support you reaching this future?*

We discussed the importance of ensuring there are multiple entry points for teachers into our Urban Science resources; they might wish to start from the 'big picture' and allow students to co-create the research topics they want to explore, or start with a specific topic that is curriculum related such as energy. Either way, we wish to encourage a high degree of learner autonomy and encourage a systems approach that sees the individual 'pieces' of science as part of and contributing to a greater whole.

Margaret presented one model for IBSE to stimulate our thinking:

The above model could have several starting points:

- A core module starting with the big picture (imagining my community in the future).
- Specific challenges in the doing and making phase.

Each of the specific challenges could be linked with specific areas of science or urban sustainability themes; these could be either guided learning modules or more generic providing information and suggestions for teachers and students. A 'core module' could provide general guidance on pedagogy, outdoor learning, assessment, etc.

There are several IBSE models current in Europe, most of which contain the same elements. It will be important to ensure we are not asking teachers to engage with unfamiliar models if they are already familiar with one specific model; the learning framework will need to be flexible with this. Monika has provided a PowerPoint presentation on IBSE models in Europe which can be found on our Google Drive.

6. Intellectual Output 1 – State of the art review of urban science

Inese and Krisjanis led us through a group activity to define our work under this Intellectual Output. The result is an agreed draft brief at the meeting which Inese will edit and circulate by the 20th December.

The output has two tasks; clarity was sought on the second task which is to include criterial and competences. The competences could relate to science, ESD and/or business; we are looking for competences which are unique and/or necessary for Urban Science. Where competences, for example 'able to work in a team', are already commonly taught it is not necessary to include them as we can assume such competences are already being developed.

In carrying out the research and writing your reports, please bear in mind the challenges and opportunities identified above.

A timetable for action was agreed – see point 10 below. Partners requested and it was agreed to have considerable flexibility in how these tasks are carried out and the timeline. For example, some partners will carry out the State-of-the-art review on Urban Science simultaneously. As the lead partner, BVS will facilitate this provided final reports are delivered on time.

7. Reporting and Management

<u>Narrative and Financial Reports</u>

We reviewed the narrative and financial reporting templates. The templates can be found on our Google Drive. The date for the first report is the end of February. All reports should be continuous i.e. a continuation of the previous report.

Financial reporting was discussed in some detail:

- Financial reporting is based on unit costs, but keep all receipts and boarding passes in case of a desk audit.
- Transfers between budget headings other than Project Management and Exceptional Costs is permitted if the increased/decrease does not exceed 20%.
- If salary costs are less than the unit cost, then the unit cost is still reported.
- Timesheets to be completed (see template on Google Drive).

All partners have received invites to view the Mobility Tool+ which is the online reporting tool. This will be completed by Richard, however, all partners are free to comment at any time.

Communication

We discussed a number of communication methods in addition to our partner meetings. We will be using Google Drive to share files; this has already been set up and invites sent to everyone. If you have not received an invite please let Richard know.

We also discussed using:

- Yammer for online discussions.
- Asana for project management.
- Skype/Zoom/appear.in for online meetings.
- WhatsApp for chats.

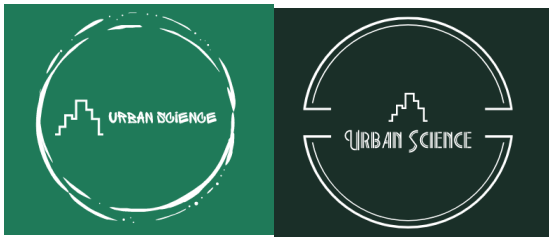
Twitter and Facebook were mentioned as ways to gain feedback from teachers and students. It was notes that we need to pay special care to legal restrictions and safeguarding issues in using any online tools.

8. Intellectual Output 6 – sharing the Lessons Learnt

Staff time for this output was cut from the budget and we discussed practical alternatives. It was agreed to develop a landing page in English providing a platform for sharing results throughout Europe. Links from the landing page will lead visitors to the partner websites for project results in their language. It was agreed that teachers and stakeholders in each partner country are more likely to visit resources on partner websites than on a dedicated project website.

We discussed a brief for the website which Stoyan will write and circulate. EEA, GRID and WA all said they have options for developing the website at minimum cost. All to respond to the brief with a costed proposal. All agreed that the cost of the landing page will be shared equally by all the partners.

We also reviewed logo ideas. Partners preferred a combination of:



The logo will be on a white background. Stoyan suggested the 'building' image could be half tree half building – agreed. Richard will work on designs with a graphic designer. Agreed cost of up to £75.

9. Agenda Items not Covered

Our meeting was busy and productive. There was one key item we did not have time to cover which is Monitoring and Evaluation. Richard will contact partners about this later. The M&E plan will

integrate our ambitions. In particular it will need to be integrated with assessment in the learning modules (lead by EEA and HRTA).

The same is true for dissemination and Richard will discuss this with Inese.

10. Agreed Actions

	Activities	Who	Deadline
General Project Management and Implementation			
Monitoring and Evaluation Plan	Create template and share with partners	Wild Awake	Richard to share with partners in January
Dissemination Plan	Create template and share with partners	BVS	Inese and Richard to liaise and agree timeline
Internal Reporting	Send first narrative and financial report	All partners	28th February 2018
Online meetings	To take place as necessary	All partners	Inese and Richard to liaise and agree need for meeting about Output 1
Intellectual Output 1: State-of-the-art review on Urban Science			
Task 1 – Urban Science research	Agree research brief	BVS	20th December 2017
	Conduct in-country research; send report to BVS based on template provided	All partners	31st March 2018
	Analysis and produce joint report	BVS	30th April 2018
Task 2 – characteristics of successful Urban Science	Provide briefing document	BVS	20th December 2017
	Meeting with teachers, students and experts/stakeholders to discuss criteria and competences	All partners	
	Develop country criteria and competences list	All partners	31st March 2018
	Analysis and produce joint report	BVS	30th April 2018
Intellectual Output 2: Framework for Science in the urban environment			
Task – create framework	Develop draft framework	Wild Awake	8th May 2018
	Review and comment on draft framework	All partners	18th May 2018
	Edit based on comments and share	Wild Awake	24th May 2018
	Confirm final draft framework at TPM2	All partners	28th May 2018

Intellectual Output 6: Sharing the lessons learnt			
Task – create online presence	Develop brief for landing page and partner pages	EEA	Stoyan to liaise with Richard.
	Partners to send costed proposals	Interested partners	Stoyan to liaise with Richard.
Task – create online presence	Create draft logo	Wild Awake	Richard to liaise with graphic designer
	Share with partners	All partners	

11. Date of next meeting

The next meeting will take place in Bulgaria from 28th May until 1st June. The 28th May and 1st June are travel days. Stoyan has already circulated accommodation options and costs. Please coordinate your travel with Stoyan to ensure arrival is suitable for the accommodation choice.