

WatShop: the science shop for sustainable water management in a changing climate based at UNIBS

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ABSTRACT

Science shops are community-based participatory research initiatives aiming at reducing the gap between research and the civil society and promoted by the European Commission. WatShop, the new science shop set up at the University of Brescia (Northern Italy), is one of the local output of the Horizon2020 project SciShops aiming at expanding the science shop ecosystem. The focus is on sustainable management, control and consumption of water resources in a changing climate. Public involvement and public engagement in WatShop are ensured through social network, a magazine on the website, infodays, events and meeting in direct contact with civil society. Sustainability of the science shop depends on networking and cooperation with partners.

1. Introduction

Participatory research goes beyond the production of mere information and it follows a ‘bottom-up’ approach because local people are involved (Cornwall and Jewkes, 1995). This research process is conducted with the active participation of civil society and the political context must be adapted accordingly (Bergold and Thomas, 2012). The concept of participatory research (and besides Community-Based Participatory Research, CBPR) is also linked to the concept of citizen science, which can be considered the backdrop for a science shop. In 2014, the Oxford English dictionary defines citizen science as a ‘scientific work undertaken by members of the general public, often in collaboration with or under the direction of professional scientists and scientific institutions’ (Storksdieck et al., 2016). Mulder and De Buk (2006) define the science shop as a ‘unit that provides independent, participatory research support in response to concerns experienced by civil society’. The word ‘science’ here stands for any field of knowledge, for example the social sciences, the humanities and engineering. Science shops use traditional science communication techniques and they are part of an interactive science communication system. First science shops were established in the Netherland from the 1970s to bridge the gap between science and society, but they have now spread to a number of other countries (Mulder and De Buk 2006).

The project Scishops.eu (Enhancing the Responsible and Sustainable Expansion of the Science Shops Ecosystem in Europe and beyond, <http://www.scishops.eu>) was funded within Horizon 2020 Science with and for Society (Swafs) calls. In the framework of the project, 10 new science shops started their activities. WatShop (<https://www.WatShop.it/EN>) is the science shop based at University of Brescia (UNIBS, Northern Italy) and focusing on ‘Sustainable management, control and consumption of water resources in a changing climate’. The theme is indeed one of the major current scientific and societal challenges in recent decades. Sustainable and integrated water resources management, control, consumption and climate-water interactions are key issues in environmental policies, emergency plans, river basin management plans and irrigation practices. In this context, participatory processes are essential to raise awareness on the importance of new policies and rules. On the other hand, ‘societal demand’ may point out some critical points whose importance might have been previously underestimated.

2. Materials and methods

Questions from civil society organizations are the starting point for a science shop research project. Mulder and De Buk (2006) point out that when a science shop is university-based, students can perform the research under the supervision of a professor or a researcher. Students usually get credit points and they acquire new

skills. The professor or researcher gains useful material for future scientific publications or for further theoretical analysis. Therefore, science shops combine all three missions of the university (education, research and outreach), serving the non-profit sector.

Mulder et al. (2001) say that weaknesses of science shops are caused by fragility among different actors: users (citizen, associations and enterprises), scientists (professors, researchers and students), institutions (universities or other supportive structure) and science shop staff (paid individuals that do mediation works). In this scenario, WatShop is trying to overcome these shortcomings by ensuring the participations of all the actors in the science shop activities. Public involvement and public engagement are ensured through social network (Twitter, Facebook, LinkedIn), a magazine on the website (containing news, events held and curiosities), infodays, events and meeting where the civil society can participate.

3. Results and discussion

WatShop partners represent different actors of the civil society (municipalities, social enterprises, water service managers, land reclamation authorities, etc.) which are contributing to the science shop activities. In these months a series of water-related raising awareness events involving citizens and/or students were organized (see Table 1):

Table 1. WatShop activities and events involving citizens and students

Date	Type of event/activity	Topic
21/02/2019	Informal meeting open to citizens	Cost of water
22/03/2019 (World Water Day 2019)	Informal meeting open to citizens, that was followed by the presentation of the exhibition "Irrigation techniques in condition of water scarcity"	Water, irrigation and climate change
01/06/2019	Informal meeting with secondary school students and open to citizens, that was followed by the presentation of the exhibition "Irrigation techniques in condition of water scarcity"	Water and climate change
25/10/2019 (Global Climathon Day)	Master students were involved in different group activities	Climate change
October, November, December 2019 and January 2020	Participation to "Drinkable Rivers" project (http://drinkablerivers.org/), a citizen science project promoted by WaterLab. Master students and citizens are involved	Water quality

WatShop is currently involved in a project coordinated by a partner social enterprise, aiming at promoting communication efficiency and debating among young citizens (16-26 years old) and focusing on a few challenges. Within this project Watshop is taking care of the focus on 'water'. Forthcoming activities of the science shop will include science cafes, co-creation events, workshops and stages for high school students focusing on specific aspects of the WatShop theme. In addition, WatShop has been working with other partners on research and innovation project proposals that will possibly make its activities more sustainable. Indeed, sustainability of the science shop beyond the funded European project is a challenge to cope with as the activity evolves and the communities and stakeholders give trust to the science shop. On the other hand public engagement in the issues dealing with the management, control and consumption of water resources is a fundamental step to take towards the achievement of sustainability, as it is assessed through the 17 UN Sustainable Development Goals.

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