

SCIENCE PROMOTERS IN DIALOGUE WITH SOCIETY

How science promotion can help us respond to society's current challenges

Science Promotion Network Meeting – 29/4/2022 – Gluon

INTRODUCTION

During the 9th meeting of the Brussels-based science promotion network organised by Innoviris (the public funding administration for research and innovation in the Brussels-Capital Region), we invited our science promotion actors to explore the link between science and society (topic of the 2022 STEM CALL). We talked to teachers, associations, youth organisations, fab labs, academic actors etc. from the Brussels Capital Region. By means of four round-table discussions, we explored the role that science promotion can play in response to 3 societal challenges. This meeting took place at the premises of Brussels science promotion actor, Gluon, the platform for art, science and technology.

RESULTS

The main results of the discussions have been summarised in the SWOT table on the right. The threats and opportunities in the table refer to the societal challenges and opportunities that have been identified for science in society. The strengths and weaknesses relate specifically to the role that science promotion can play in that regard, in the opinion of the actors. The results for the three themes were aggregated because there were many parallels to be drawn between the discussions. The results described emerge from a cross-fertilisation between the scientific insights discussed and the actors' own experiences when promoting science.

METHODOLOGY

During the run-up to the meeting, the "Science Promotion" and "Policy & Impact" cells at Innoviris identified three current sub-topics for debate, taking into account the content of the STEM CALL 2022, the target audience of the meeting and policy-relevant literature.

1) Science and policy:

What impact have the crises in recent years had on the general public's trust in science/scientists? To what extent do people trust in science-based policies? Does believing imply acting? In what way can science promotion seek to address this?

2) Science and polarisation:

COVID, 5G, climate,... are topics that have greatly divided the public in recent years. Everyone seems to have an opinion, but no one listens anymore. Are citizens more divided than ever? What role can science promotion play in that regard?

3) Science and young people:

What future can young people still imagine? A future consisting of global warming, pandemics and war? What about young people's confidence in the future? Can science promotion offer them a different vision of the future?

On the day of the meeting, the 34 actors divided themselves up into four thematic round tables. Each round table was accompanied by one or two moderators from Innoviris guarding the objective and the framework of the round table and making sure every actor and every opinion was represented during the course of discussions. The discussions followed a set pattern. First, the actors introduced themselves and their connection to the topic. Next, the moderator provided an introduction to the topic by means of a thought-provoking statement or interactive exercise. The moderator then fed the conversation that ensued from this with factual information from Brussels and/or international research. The participants were given the opportunity to reflect on this and share their experiences. Finally, the group considered actions that can be regarded as good practices. What role can science promotion play in our response to these challenges within society? What steps have already been taken? What works and what definitely doesn't?

GOOD PRACTICES

What role can science promotion actors now play with regard to these challenges? Based on the discussions, the actors arrived at the following list of good practices.

In general:

- Science promotion actors can take actions to restore the credibility of scientists and ensure that citizens value science.
- Science promotion actors have an important role in explaining to citizens, and more specifically to young people, how the scientific method works and what the difference is between science and policy. Rather than ready-made answers, they can explain how a particular scientific insight or protocol came to be and what unsuccessful experiments preceded it. Participatory research and citizen science are useful vehicles that can be used to introduce citizens to the scientific method.
- Science promotion actors can make citizens, and more specifically young people, media savvy so that they can learn to distinguish between different sources and to cross-reference sources for themselves.
- Science promotion actors can instil in citizens, and more specifically in young people, a more critical mindset so that they do not simply focus on what they want to hear and shut themselves off from what they do not wish to hear, but also seek out new hypotheses themselves. A critical mindset protects individuals against the blind scientific optimism and helps to look critically at the consequences of science and technology.
- In awareness-raising and scientific communication, 'science' should not exist separately from 'society' and there should be room for ethics and for ideological debate.

Specifically four young people:

- Science promotion actors can teach young people that it is okay not to know everything, to be wrong and to make mistakes by searching for answers together.
- Science promotion actors can empower young people by involving them in choosing topics or research questions that are currently under-researched.
- By carrying out scientific experiments at home or in the garden, science promotion actors can teach young people to experiment and look for answers themselves.
- Actors can use social media as an appropriate channel to convey the scientific method, such as by means of the format of the experiment.
- Actors can educate young people on the mechanisms behind science denial.

THREATS

- The image of the scientist has suffered as a result of the crises faced in recent years. Scientists have somewhat fallen off their pedestal because they do not have all the answers.
- The production of scientific knowledge and the way it is applied are two distinct issues. Policy choices influence certain scientific orientations.
- Science denial and resistance to science can have important societal consequences.
- An overreliance 1) on (self-proclaimed) experts, 2) on scientific advances, or 3) on the digital world can also be dangerous.
- The social media are contributing towards the spread of science fiction, fake news, propaganda, etc. Young people claim not to trust "the media," yet they spend a lot of time engaging with them and are influenced by them.
- Young people are vulnerable to being affected by tunnel vision as a result of influences in their surroundings (social media, friends, parents).
- Scientists still carry out too much of their work in silos. There is a lack of interdisciplinarity.
- Scientists are sometimes seen as poor communicators.

WEAKNESSES

- Too little time is often available for science promotion in a more in-depth way; everything always has to move fast. Time is an important factor in encouraging people to really reflect on something in depth.
- Project funding is often one shot and has the disadvantage that actors are heavily involved in administrative follow-up (filing and following up files) which means they can spend less time on the actual work of science promotion and can undertake fewer long-term projects. Structural funding would give more room to think more long-term and to set up projects that will have a stronger leverage effect.
- The current education system offers little scope for young people to "fail" and little room for manoeuvre for creative teachers. There is a lack of technology equipment and/or of digital skills among teachers.

OPPORTUNITIES

- Despite the COVID-19 crisis, most of the people that science promotion actors work with have maintained their trust in science.
- Figures also demonstrate that the public have not lost their trust in science.
- The public has a fairly positive view of scientists (intelligent, trustworthy, cooperative and honest).
- Young people are still optimistic and hopeful and consider themselves capable of changing the future for the better.
- Young people are open to scientific arguments and have not turned their backs upon science.
- Young people have confidence in their teachers and in scientists. An emotional bond in the form of a human connection increases trust among young people.
- Despite presenting a number of pitfalls, the social media also offer opportunities in the area of science communication.
- Open innovation approaches contribute towards a greater trust in science. Citizen Science projects can help enable citizens to become involved in understanding how exactly science works.

STRENGTHS

- Support for science promotion actors has increased significantly in recent years. The Brussels Capital Region has no reason to be ashamed of the work it is doing in order to bring scientific knowledge to the people of Brussels.
- A focus in science promotion on the scientific method, rather than on ready-made answers, may help people be more accepting of scientific results. It is important to make the public aware of the scientific process.
- Actors within science communication and promotion can play a role in the rehabilitation of scientists by explaining how science works and how it differs from policy. People must be made aware that scientific knowledge does not always provide certainty. Scientists do not always agree with each other.
- A multidisciplinary approach can provide interesting insights from areas such as sociology, psychology and neuroscience (regarding cognitive bias, epistemic cognition, social identity, motivated reasoning, emotions) to show why people are susceptible to misunderstanding, resistance and doubt with regard to scientific knowledge. Insights from journalism can be used in turn to demonstrate the importance of using multiple sources, creating new hypotheses and testing them out.

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