

## Comment

### LISTENING AND EMPOWERING: CHILDREN IN SCIENCE COMMUNICATION

## Children's involvement in science communication

**Andrea Bou-Vinals and Silvia Prock**

*ABSTRACT: Listening to and empowering children is a main objective of the EU project SIS Catalyst – Children as Change Agents for Science in Society. Within this frame, a training workshop was held with researchers from the University Innsbruck (Austria) who are involved in the children's University Junge Uni Innsbruck. We analysed the discussions of the scientists about the reasons why they engage in science in society activities, and why they think that children are interested in participating in such activities, and we compared these outcomes with similar discussions carried out by children in the advisory board of the Junge Uni. Scientists and children can reflect on their experiences in the same way and can learn from each other. This mutual learning process can help to develop institutions like a children's university.*

One of the aims of the FP7, MML project SiS Catalyst is the inclusion of children's voices in science in society activities. Within this framework, the interactions between children and scientists in science communication events play a very important role. Through a collaboration between the Junge Uni Innsbruck, TRACES (Paris), SISSA Medialab (Trieste) and Association Paris Montagne (Paris), we have developed and run a series of workshops to train scientists to listen to children and establish a dialogue with them.

We believe that an enhanced interaction will benefit children, scientists and research institutions through the exchange of views and improved mutual understanding.

### **The scientist's view: analysis of a training workshop**

The workshop "From Science Communication to Empowerment" was led by Traces (<http://www.groupe-traces.fr/>) at the Leopold-Franzens University of Innsbruck, Austria. The target group were scientists who take part in activities of the Junge Uni Innsbruck (<http://jungeuni.uibk.ac.at>), the children's university of the full-scale University of Innsbruck. The aim of the workshop was to give the scientists theoretical background and new practical tools in order to listen and empower children and young people in their activities.

A workgroup was dedicated to comparing the reasons why scientists engage in science activities for young people and the reasons why they think children are interested in engaging in those activities. In other words, scientists were asked to identify and discuss their own agenda and the children's agenda when they meet for a science activity (these can be lectures, experimental workshops, lab visits, etc.).

The answers to the first question (the scientist's agenda in engaging with children) were analysed, discussed and ranked by the participants within the workgroup. The most important reasons mentioned were: "passing on knowledge", "opening doors to new questions", "gaining self-confidence". Other reasons such as "attracting children to science" or "revealing the possibility of new educational pathways" were often mentioned. Some scientists also saw "fun" or the function of "role model" as an important reason for working with children.

On the other hand, when asked why, in their view, children are interested in participating in science activities, scientists said that children are interested because of "fun", "action" or because "they have to join with a school event". Also "curiosity", "coming into contact with likeminded people", "learning something new" or being a "leading actor in science for a day" were felt as important aspects by the group.

Another part of the workshop gave the scientists time to reflect on their fears when interacting with children. This individual activity was a very meaningful, but very difficult, exercise for most of the participants. The feedback on this activity showed how important and helpful training can be for scientists. In fact, due to a lack of self-confidence scientists often adopt a protective posture, using their knowledge as a shield against the unpredictability of children's questions and behaviours. Recognising that children are in fact a scary audience, and sharing experiences on this topic was perceived as a very important step for facilitating a dialogic relationship with the children. Moreover, reflection on one's fears sparks a learning process and personal development. The training evaluation showed the benefit of a workshop like this. In fact, most scientists participate in SIS activities as a brief parenthesis beside their research work. An exchange in a training session can help to handle problems, fears or complications easily, but can also amplify the engagement and passion in working with children in science.

### **The children's view: reactions of the children's council to the views of the scientists**

In order to ensure children's participation, in April 2012 the Junge Uni Innsbruck started a children's council, which is an advisory board consisting of a group of children involved in the organisation of the children's university. The children's council discusses different topics, gives advice on programmes, proposes new ideas and elaborates a checklist for the scientists who are doing science activities for the Junge Uni.

At the moment the 14 members of the Junge Uni Children's Council are children from the city of Innsbruck, but also from surrounding rural areas. The children are

aged 9 up to 13 years and they have all participated in at least one Junge Uni programme. The first meeting set out the council's house rules, such as meetings take place every three to four months and are moderated by an adult, usually a member of the Junge Uni team. An important rule is that everybody can bring in his/her ideas and opinions and that everybody is treated in a respectful manner (<http://www.uibk.ac.at/jungeuni/kinderbeirat.html>). As described above, during the workshop "From Science to Empowerment" we asked the scientists to discuss why, in their opinion, children are interested in SIS activities, so it was obvious to ask the children of the advisory board the same question and to compare the results. Therefore the same group activities described above were run with the children on the advisory board.

The most important reason identified by the children for a scientist doing SIS activity is to "please children, because children are the future". The "advertising of his/her science field" is the second reason and "having fun with knowledge transfer" the third one. Children also think that scientists are doing science activities with children because they are "getting recognition". An additional explanation was that a scientist who is doing a workshop or programme during the children's summer university gets the respect and recognition of the University itself but also of other scientists. This answer clearly showed that the children are aware of the importance of these activities also for the scientific career of a researcher.

Children also identified several reasons why they join science activities. The children's council thought the most important one was because "it is interesting and you can get enthusiastic about something". They also mentioned "getting to know interesting people", "getting a feeling of how University life can be" and "learning something new" as reasons. Sometimes they join science activities because they "don't want to get bored during their summer holidays".

The answers of the scientists were shown to the children after the workgroup and they reflected on them. Most of the answers were accepted, but they refused two of them: they did not agree with the fact that children participate in science activities because "they have to join because of a school event" and to "be a leading actor in science for a day".

### **Acknowledging each other's agenda**

One of the main goals of the group work of the workshop "From science communication to empowerment" was to raise awareness among scientists of the fact that children often have a complex, articulated, and non-trivial agenda when they participate in science events or activities. By reflecting on both their own agenda and what they think is the agenda of children, they are enabled to reflect on possible conflicting needs that are often at the origin of misunderstandings or lack of dialogue, and they can structure a better interaction with children.

If we compare the answers of the scientists and the children we can see that some of the arguments are mentioned by both groups, whereas others are not considered by the two groups. On the one hand, this stresses the importance of exchange and

reflection on experience but, on the other, it shows how meaningful it can be to involve children in the design of science activities.

Children are also fully aware of how difficult it can be to communicate science to children. During a role play at the children's council they discussed the fears of a scientist when trying to start a new science activity. The scientist in the role play was scared that the children could be bored by him or his topic or that he couldn't get his scientific knowledge across. The fact that scientists mentioned those same fears within the workshop "From science communication to empowerment" shows that listening to children and involving them at institutional levels like the Junge Uni can help to reflect, improve and develop science in society activities.

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