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Comment

LISTENING AND EMPOWERING: CHILDREN IN SCIENCE COMMUNICATION

Children as science journalists. A way to promote individual-lead learning and critical thinking, enhancing the participation of children in the dialogue between science and society

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ABSTRACT: In the last two years SISSA Medialab designed, tested and evaluated two projects aiming at empowering children (in one case) and teenagers (in the other) to act as science journalists in order to promote a personal, critical attitude towards science and technology. The two groups produced a paper magazine and a blog, respectively, in a participatory process, in which adults acted as facilitators and experts on demand, but the youths were the leaders and owners of the products. Special care was taken to ensure inclusiveness, by involving in the project children and teenagers from any social class including those not especially interested in science and technology before participating in the project.

The projects

The magazine "Jota primordiale" ("Primordial soup") was designed and produced by a group of 10 children aged 9–13, recruited in one of the 13 children's centres of the Trieste municipality. The children volunteered to participate and, during the six months of the project, they attended weekly two-hour meetings, together with one educator from the children's centre and 2–3 facilitators from SISSA Medialab. The assigned task was to develop a magazine that reported on the research and research institutes active in Trieste to other children. Beyond this task the young reporters were totally free to decide on the format of the magazine and its sections, the topics to be tackled, and the information they wanted to collect. They were in charge of the interviews and of the production of photos, videos and texts.

At the end of the project a graphic designer was at their orders to design any graphics they liked. No special training in journalism was offered to the children so as to avoid the imposition of adults' points of view and traditional approaches, but during the discussions the facilitators always invited the children to think about their audience, so that the best approach might emerge from this reflection: Will the other

children understand that? Will the other children like that? What might other children like to see included in this topic? Etc. The project, run in the framework of the European-funded project Sis Catalyst, was carefully evaluated, and a Master's thesis was dedicated to this front-end, formative and summative evaluation.[1]

The blog "Dove mi butto?" ("What should I get into?") was instead produced by 16 teenagers aged 17, from the Sardinia region. A Science Reporter summer camp was organised in the Scientific and Technological Regional Park of Sardinia (Pula), and the teenagers were recruited by advertising in all secondary schools of the region; the kids could send in a very simple application form (basically only volunteering to participate), and 8 boys and 8 girls were randomly chosen. This random selection allowed a group to be formed that included kids from towns but also small villages, very good at school or with learning difficulties, very interested in science or just curious about the journalistic side of the project. They were hosted for a week inside the park, and were supported in their task by the SISSA Medialab facilitators, who also provided photo cameras, video cameras and other technical devices. The teenagers designed and produced their blog, which aimed at presenting the Park to their peers from a point of view that was very relevant to young people of their age: What career opportunities might science and technology offer to me? What research fields, what university studies, what roles and positions? All interviews to the Park researchers therefore recalled the title of the blog with questions like the following: Should I get into neurosciences? Why did you get into IT engineering? Would you advise me to get into your research field? Etc. Some of the teenagers are still working on the blog, even if the project ended months ago.[2]

Reflections on the results

Several features make youth journalism particularly valuable, and we believe it can enrich the range of activities that are currently organized to engage young people in science, such as hands-on workshops, visits to museums and laboratories, meetings with scientists, internships and so on, by moving the engagement from the mere enjoyment of a pleasant activity towards a more active participation in the dialogue between science and society.

Natural, enthusiastic journalists

In both projects we realised that to be a reporter (writing, taking pictures, taking videos, interviewing etc.) is a perspective that attracts the majority of young people, including many who are not, at the beginning, interested in science or technology. This is in itself a strong point in favour of youth journalism, but there is much more to it. Children are naturally curious, an essential feature in a good reporter, and honest and creative as they are, most of the times they go straight to the point of the issues, much better than adults do: Why do you do that? What for? How much does it cost?... At the same time, since children are heavily exposed to TV, radio, and the mass media in general, they have absorbed many key features of the media language; many

children, for example, are perfect anchor-men or -women, and conduct interviews with the rhythm, the style and the humour of the best professionals. Asking them to be a reporter is to take advantage of what they like to do and of what they know how to do (at least in certain respects), and considering the variety of competences and roles required to produce a reportage, each of them can find the role in which they feel most comfortable: on the backstage or front stage, taking notes or controlling the technical parts, writing or looking for iconographic material, etc. For all these reasons journalism represents a science and society activity that is much more inclusive than many others: it potentially attracts, motivates and engages all kinds of young people. An example: during the production of the science blog, a "difficult" 18-year-old boy, with a past of problems at school and home, was able to produce the most delicate, beautiful photos of flowers and insects the very first time he took a photo camera in his hands. A hidden talent has emerged, thanks to a creative environment and a personal interest-driven way of working.

Interest-driven investigators

Writing, blogging, producing photos or videos are powerful hooks to engage children and teenagers who think science to be difficult and, very often, also boring. Instead, once asked to investigate what is interesting for them, children and teenagers discover aspects that are relevant and/or fascinating for their personal way of looking at the world, and learning facts or concepts is a consequence of personal choices. By feeling the freedom to choose and the ownership of the learning process, they discover they do enjoy topics or aspects of science and technology that they never thought could be enjoyable. This is the case of a young boy (9 years old), not very good in maths or science, who discovered, by visiting the Synchrotron of Trieste, that he likes "to be lost in strange numbers" such as the speed of a particle or its size.

Our small group of reporters for the magazine "Jota primordiale" (9 to 13 years old), at the beginning of the project were not aware of the existence of any of the scientific institutions active in the Trieste area (their area), but had heard the news regarding the supposed speed of neutrinos, higher than that of light — it might have been difficult for a teacher to switch the focus of a science lesson from, say, the water cycle to particle physics, but in the context of journalism the kids were free to explore the meaning of such news.

Putting scientific knowledge into the context of society

A science journalism approach also implies putting scientific knowledge into context, allowing young people to discover the links between different disciplines and different research methods, but also between research, technology and society. For example, the issue of the recognition of women scientists in universities and research institutes emerged in many interviews held by our young journalists. The Sardinian teenagers, who dedicated their blog to collecting information about career opportunities in science and technology, were naturally led to investigate the

relevance of the different research fields for society, and the professional status of the researchers working in those fields: Are there still open positions in this or that field? Are there differences in power and salary between women and men? Investments? Perspectives?

A journalistic approach is also useful to nourish critical thinking. It helps young people to take all opinions critically, to investigate and consider alternative views and interpretations on every statement or fact they collect.

From personal exploration to public communication

Although young people have a natural talent and a strong media imprinting to work as journalists, they also need to acquire new skills and competences. Our facilitation approach, which as we mentioned aimed to be as least directive as possible, left to them the decisions about what and how to produce. We tried to make the technicalities of the reporter's work emerge (especially with the youngest) from the repetition of one fundamental set of questions focusing on the audience's needs: Would the readers like that? Would the readers be able to understand that? What more would the readers like to know about that? Is this title clear? Does this title express what you want to express? Etc. In other words: imagining the others — readers, internet navigators, spectators… — , putting themselves in the shoes of the audience, helps young people to understand the rules, techniques, tips and tricks of the language of media.

As a collateral (but not less important) effect, the experience of working as journalists helps young people to learn the basic functioning of the media system and empowers them also to critically interpret the information they receive through the media.

Young journalists as ambassadors of science and technology?

Finally the young journalists might be better ambassadors for science and technology towards their peers, speaking the same language and being interested in the same topics. There are no reliable data on that assumption, but it seems reasonable to think that, as happens in any project that includes a representative of the audience in the design and the delivery, a media in whose production children are actively involved is more likely to meet other children's tastes and needs.

Many aspects of the "Jota Primordiale" were scrutinised through evaluation surveys: the perception of the experience in the young reporters, what their parents observed, how the participatory process developed in the eye of an adult observer, etc. The evaluation included the appreciation of the printed magazine among children's peers. 5000 copies were distributed in Trieste schools and the impressions of the young readers were collected and analysed. The children gave very positive feedback on the magazine, both regarding the contents and the look. The young reporters, for example, were very determined from the very beginning to include in the magazine quizzes, games, tests and jokes, and indeed the young readers liked

them very much. The young reporters decided also to add their photos and short biographies in the very first pages of the magazine, and we facilitators were afraid that the importance given to the young authors would not be appreciated by the peers, and rather considered an expression of vanity. On the contrary, the evaluation showed that the presence of the authors was well received by the kids, helping a process of identification with the young journalists. However, more studies are needed on the effects of peer-to-peer science communication among children before more solid conclusions can be drawn.

We hope that more analyses and case studies are collected on the described approach; a good example was a workshop on youth journalism that was held in the framework of a Euro-Med Youth project, to which SISSA Medialab (Italy), Madatech, National Museum of Science, Technology & Space (Israel), the House of Experiments (Slovenia) and Traces (France) participated. A four-day seminar was organised in April 2013 in Haifa, to exchange experiences and discuss models on how to empower children and teenagers as science journalists, in particular on environmental issues (EMYR Seminar. Euro-med Young Reporter on Environment). To make children or teenagers investigate the local environmental problems and to report on them to local communities via magazines, blogs, radio or tv programmes is also a way to promote in the kids a feeling of social responsibility, and to foster the links between different age groups and communities.

Notes and references

[1] Anna Sustersic, at that time student of the SISSA Master in Communication of Science, followed the whole project and was in charge of the evaluation. The complete report of the evaluation will be soon published.

[2] http://dovemibutto.wordpress.com/.

Authors

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