

Educating on science-society relations and PE for students



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The Inter University Center Agorà Scienza



Agorà Scienza is an Inter University Center of the 4 Universities of Piedmont

The Centre is a meeting point :

- ✓ To communicate and disseminate scientific culture to bridge the gap between scientists and society
- ✓ To enhance researcher's communication skills
- ✓ To innovate in science education
- ✓ To develop research on "Science in Society"
- ✓ To promote scientific citizenship



Agorà Scienza actions towards schools

- **Bambini e bambine un giorno all'università: PE activity at the Torino level**
Labs, visits, learning paths for primary school students to discover research
3000 primary school pupils, 80 researchers
- **To3 nano: scientific labs for high school students: PE activity at the Regional level**
30 high school students involved in existing research projects that afterwards become actors in research communication
- **Scienza Attiva: PE activity at the Italian National level**
web-based, makes use of **deliberative democracy** tools.
5000 high school students, 30 researchers ,
8 months interactive learning and exchange process.
- **Scientific Summer Academy : PE activity at the Regional level**
50 high schools students involved in a **one week intensive research engagement path**

Common elements

- Direct contact between researchers and pupils
- No single events but engaging pupils in a path

SCIENTIFIC SUMMER

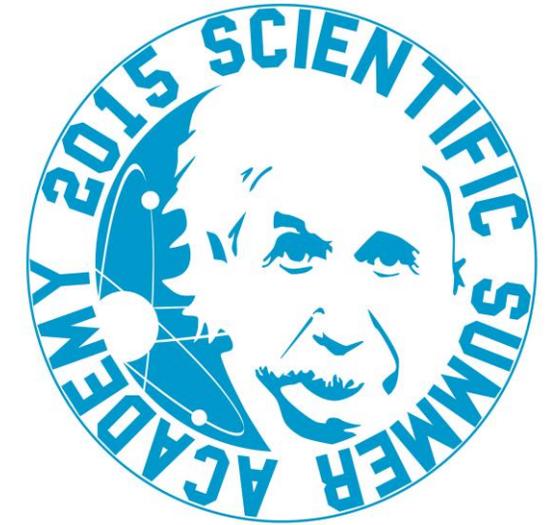
ACADEMY 2015

25 - 29 MAGGIO

SCOPRI LA SCIENZA CON I SUOI PROTAGONISTI
E VIVI UNA SETTIMANA DA SCIENZIATO

The Scientific Summer Academy

- Science Education annual activity
- Target: students at year 3 or 4 of high school
- Takes place in May-June
- Format:
 - ✓ 5 days, scientific lectures in the morning
 - ✓ 3 days afternoon research labs in small groups
 - ✓ 1 afternoon discussion in small groups and poster preparation
 - ✓ 1 afternoon deliberative discussion
- 50 students and 30 researchers involved



SSA and PE2020: new PE elements in SSA

Objective - Introduce Science-Society relationship elements in the SSA

- RESEARCHERS - Involvement of researchers in discussions and pilot design (sensitization activities, context-tailoring workshop, guidelines for researchers)
- STUDENTS - PE elements in poster presentations and deliberative final discussion (guidelines for posters, methodological recommendations for deliberative discussion)



SSA Pilot achievements and critical points

Positive impacts

- RESEARCHERS
 - ✓ For the first time, researchers responsible of labs met each other and discussed their approach as well as how to integrate PE elements in the SSA
 - ✓ As a result, more researchers decided to come to the final deliberative meeting to discuss with students
- STUDENTS – representations of “what is science” and perception of science and society relationship changed during the pilot action. They were invited, probably for the first time, to think about and discuss social, economical and ethical dimensions of science.

Obstacles

- Difficult to involve researchers in the context tailoring workshop (12/30 came)
- Find out a common definition of PE (for example, understand the difference with science communication); PE perception was very discipline-sensitive
- Virtual nature of deliberative meeting, no practical consequences
- Limited engagement of institutions (researcher’s involvement on a voluntary basis)

Suggestions from the pilot

How to include RRI and Innovation in Science Education and students engagement

- Involvement of researchers in a reflection on PE before and during the PE action
- Insertion of science and society related issues in the different parts of the educational process
- Organization of a deliberative meeting as a final discussion event with the participation of researchers, students and social scientists of PE2020 project



How to educate the research community to RRI

Experience from Politecnico di Torino

- Training at doctorate level about RRI in particular PE, Ethics, Research Integrity
- Meeting with researchers preparing EU proposals to stimulate their reflection about how to include RRI aspects
- Discussion workshops using the  **RRI Tools** self evaluation questionnaire to launch the dialogue
- Participation of the Research Department in Swfs proposals about RRI



How to achieve effective societal engagement in the design of research projects

- It should be explicitly requested by the call for proposals (example of Cariplo Foundation calls for grants in Italy)
- A specific budget needs to be allocated to PE activities
- Training and information sessions are needed, researchers should deeply understand what RRI and PE mean
- The type of engagement needs to be designed by researchers



What is needed from policy?

RRI is a “revolution” in the approach to research but it will remain a “wish” if not fully supported by the EU, national and regional research policies

- Consideration of PE activities for careers
- Calls for research grants requesting and economically allowing to take care of RRI and PE aspects
- Different evaluation criteria for research projects
- Enhanced dialogue between researchers and policy makers
- Coordination of actions at the regional, national and international level
- Support for innovation in PE