

Science Education in the Americas

Lessons from the experience and the
role of the Academies

The Brazilian experience

- Programa ABC na Educação Científica – Mão na Massa (ABC in Science Education – Hands On Program)
 - Since 2001
 - 4 main nucleus (Estação Ciência, CDCC, Fiocruz, and Universidade de Viçosa)
 - 5 national seminars (Recife, São Paulo, Rio de Janeiro)
 - Diagnostic survey (evaluation)

Role of the Brazilian Academy of Sciences

- Member of the Board of Directors
- Coordination Group
- General Coordinator
- Secretariat
- Nuclei

Diagnostic Survey

- The coordination group requests to Simon Schwartzman an analysis of the Program.
- Paper entitled *The Science Education in Brazil (A educação em ciências no Brasil)* by Simon Schwartzman and Micheline Christophe.
- It was submitted to discussion in the V Seminário Nacional, at Rio de Janeiro, on octobre 2009.

Stimulating and enriching Initiatives, but they are

- small-scale
- little institutionalised
- poorly financed
- without integration with school systems and training of teachers
- have no systematic mechanisms for evaluation and monitoring of results
- initiation or scientific literacy in its initial stages; do not serve as the basis for a more complete scientific training
- do not include social sciences

The nuclei complain the following issues

- financial difficulties for participation in scientific meetings and seminars;
- lack of a single project site on the Internet.
- the absence of a central instance that keeps an updated record or system for monitoring these initiatives and we didn't even know, effectively, which nuclei and initiatives belong in fact, to the programme of the Academy and can use legitimately its institutional brand.
- the nuclei do not send activity reports to the coordination of the project at the ABC.
- the existence of other initiatives, with similar or different approaches.

- What is the best contribution that the Academy can give the process of science education in Brazil?
- The Academy should have its own program of science education , as happens currently,
- or supporting and stimulating a larger set of activities and initiatives in another way?

- Projects that today comprise the ABC Science Education Program do it for historical reasons, but act with complete autonomy.
- Today, ABC does not have the means to monitor what is happening
- has neither financial and institutional capabilities to select and support the best initiatives,
- nor formal mechanisms by which other projects and institutions can join this ABC program , what creates ambiguous situations.

The main mission of the ABC

- To discuss and propose new solutions to scientific and socio-economical questions that require a multidisciplinary approach, which is done through working groups and specific studies,
- typically does not include the maintenance of regular programmes of education and training, either directly or in partnership with other institutions.

- Nothing prevents, in principle, that these functions can be extended, and that the ABC could create permanent programmes for research and scientific training, as do some of its related institutions in other countries.
- But this would result in institutional changes and new responsibilities whose relevance and opportunity only own institution can evaluate.

SUGGESTIONS

- The Academy should continue to support and stimulate the development of science education in Brazil, in several ways.
- Encourage and stimulate contact between scientists and educators
- Stimulate scientists to participate at all education levels,
- Improve training and awareness among educators about the importance of science education

- Share the experiences of science education at several countries, spreading knowledge and encouraging best practices
- Stimulate the study of education in science and the development of this area of research in the country
- To create a standing forum where different initiatives that exist today science education could meet and exchange experiences and information.
- Include science museums in the range of information about teacher training programmes.

Study Group

- Need to create a Studies Group with a broad scope to support all ABC's activities in the area of education. Since the Academy has been developing the most diverse activities involving, among others, university reform, science education at elementary and middle level, and child education. This Studies Group would search for the articulation of these important efforts.

- Thank you very much.
- Muchas Gracias
- Muito obrigado.



- Diogenes Campos
- dac@abc.org.br