

IANAS 2017-11-02

Córdoba Argentina

The first day of the program was devoted to a meeting of the focal points and the second to activities with middle school teachers from Córdoba. Half the workshops and conferences were given by focal points.

A. Initial discussions

1. Presentation of the book “Inquiry Based Science Education”.
2. Language problem Although the official language of Ianas is English, there are several focal points who do not speak it well enough to participate in a meeting. There is also one focal point who does not speak Spanish. During this meeting, it was agreed to provide a limited amount of interpretation.

B. Country work report.

1. Eduardo (Dominican Republic) provided a summary of the Dominican Republic meeting in Santiago de los Caballeros in 2016, where the format of the meeting was changed for the first time, with a full day being given over to conferences, workshops and tutorials. According to the report, the event was a success that made an impression in Santiago de los Caballeros, where over 300 basic education teachers attended the activities.
2. Claudio (Venezuela) In Venezuela, work has been done for 13 years, and is spreading throughout the country. An NGO has been created to raise funds for the program, which is devoted to training teachers.
3. Mario Lanza (Honduras). Mario was unable to attend the Dominican Republic meeting. In Honduras, they have focused on mathematics and robotics teaching, with the participation of 5,000 high school students. They have undertaken activities

with Icsu.

4. Carmen (Guatemala) They have just signed an agreement with the Ministry of Education until 2020. They want to implement the program remotely in order to be able to benefit more teachers.

5. César (Peru). The teachers' command of mathematics is too low for them to be able to take the teacher training programs. They want to train high school math teachers. They have designed biology, mathematics, physics and chemistry handbooks. They have provided several courses with support from Mexico. They have a certain amount of support from the ministries.

6. Winston (Caribbean Academy of Sciences). They held several workshops in the region.

7. Patrick. (USA) Although they are promoting the IBSE method for science teaching, there are political problems due to a highly conservative sector which wants to remove all references to evolution. Energy teaching is also a problem.

8. Viviana. (Costa Rica) The national education policy promotes IBSE (Inquiry-based Science Education). Relations between the Academy and the Ministry of Education have been restored. The university is trying to secure its budget and the agreement between the Academy and the university needs to be renewed.

9. Jean Michel (Panama). Member of the education commission of the Academy of Sciences of Panama. The Ministry of Education does not support the Academy's activities. IBSE has been undertaken with the French cooperation fund. The main problem is the lack of support from the Ministry. There are tensions with the government due to the Canal, since the budget has already been halved. Attempts are being made to create an

NGO to raise funds. They work remotely with IBSE system kits and classes that have already been prepared.

Mariana (Panama). Science at Your School has been used as a model. In 2010, a diploma course was designed for teachers. They are preparing a graduate degree for middle-school teaching. IBSE is used as a classroom strategy. The ministry will provide financing for the next five years.

10. Eduardo (Uruguay). They are beginning to do this kind of work with the Academy but it is very bureaucratic. They are continuing the Main à la Pâte program. They want the methodology to be known.

11. Brazil (Debra) Scientific training has begun to be provided for high school children.

12. Oscar. (Cuba) IBSE is already being implemented at elementary school. Science is heavily promoted.

13. Eduardo (Dominican Republic). By law, four per cent of GDP must be assigned for education. This has initially been allocated to the construction of classrooms. Ianas's action can greatly help to improve education.

14. Edison. (Ecuador) The Academy of Sciences was only established three years ago. It comprises 50 members and has certain quality standards established by the Ministry of Education. Teaching is the greatest concern because teachers have not been trained to teach science. Events are organized and two-month science and astrophysics training sessions are offered.

15. José. (Colombia). They have been working with IBSE since 2004 and initially worked with La Main à la Pâte. They had copyright problems because the materials were designed in France. Some work will be published thanks to support from

Siemens. The Small Scientists project continues to be implemented.

16. Argentina. There are three objectives, one of which is education. Workshops continue to be provided. Currently, the most important issue is the union between six academies.

17. Carlos (Mexico). Science at Your School has continued its usual work and is advising teacher training colleges on the new curricula.

18. Jorge (Chile). There is very little teaching that uses experimentation. Teacher trainers have no contact with research. Currently, the Academy is closely linked to Relab. The meeting at the Pontifical Academy of Sciences in 2001 led to the adoption of the idea of portable laboratories. The project, financed by the Wellcome Trust of the United Kingdom, and approved in 2012, enabled the purchase of a laboratory for each country. The aim is to develop just four fundamental concepts. They began with a pilot project from 2013 to 2015. The laboratory is accompanied by graduate students and they discuss the results obtained with high school students. \$252,000 USD were obtained to scale up this program, and nine universities have been incorporated into the project. There are now four portable laboratories and 1000 students' opinions have been collected, supporting the use of these portable laboratories. Eighteen courses have been organized in which 250 biology teachers have participated. Children have been so excited that they have asked for more experiments. Six countries are currently participating. The Allende-O' Connelly foundation supports this project and a website is available: www.laboratoriosportatiles.cl

C. Other issues

1. WOMEN Proposal to write a book. Organize a workshop for the structure, with contributions from focal points and others. Women's experiences have already been documented in the water and food publications . There is a need to encourage exchange between the programs.

One question that arose is what are the objectives when two groups jointly produce a book?

A working meeting has been suggested to discuss the proposal. Education is cross-cutting and we must work in that direction.

2. NEW ORGANIZATION

What do we have to do with our group? What is happening with the international indicators? What relationships must we have among all the members? Funding. We cannot wait for government support. Our programs are long-term and permanent. The programs exist because there are people who make every effort to ensure they work. The funds obtained often do not come from governments.

D. IANAS-Sep 2017-2020

The group was divided into four groups to provide ideas about the future and future activities.

Group 1

Continue with annual meetings and the annual schedule.

Workshops must be prepared in such a way that they can be repeated (prepare materials and teachers' approaches)

Five-day workshops in addition to meetings; requests will be accepted from various countries.

Components with more IBSE content

Areas to develop: Mathematics and Physics.

Materials should focus more on Water and Environment, which will make it easier to obtain funds.

Monthly bulletin and academies should prepare and disseminate materials.

Group 1

Take up the strategic plan and update it.

Prepare a quarterly electronic bulletin with contributions from each focal point about what has been produced in each country.

Use Indágala to store the materials. Use that platform for training teachers

Try to include IBSE at the high school level.

Interact with other Ianas programs.

Group 3

Promote better mechanisms for interacting with other programs.

Promote Indágala.

Bi-annual focal point meetings and have a seminar in the years when there are no meetings.

Communication with the public and the academies. Link the academies website

Group 4

Socialization between focal points and teachers is very important and we must continue with the workshops and seminars.

There is a gap between teachers and universities.

Spend a week working with teachers and then spend a day on the meeting with the focal points.

Teachers should give a presentation on their activities.

More exchange with teachers. Listen to teachers.

One-day biannual meetings like the ones they have now. Arrange meetings with teachers in the intervening years.

E. Agreements

1. Continue and review the strategic plan. (For 2018)
2. Create a regular newsletter, with, for example, the activities of the academies and job opportunities. Support is needed for diagramming and translation. Create a Facebook page. Claudio (Venezuela) will be in charge of receiving materials to create a blog.
3. Annual meetings like the ones we have now.
4. One-week seminars give on request to individual countries. Micro-meetings throughout the year. Several teachers and two or at the most three speakers.
5. Update Indágala with work from the workshops and new materials. Link the academies' websites.
6. Promote better mechanisms for exchanges between programs and applications for multinational support.
7. Program evaluation.
8. Development of water and environment modules.