

Report: Research based evaluation of the Young Ambassadors for Chemistry project (www.iupac.org/web/ins/2007-005-2-050)

Lida Schoen, Mei-Hung Chiu, Erica Steenberg



Taskgroup 'Research based evaluation of the Young Ambassadors for Chemistry project

- Lida Schoen (chairman, Netherlands), organisation, data collection and analysing for evaluation of local organisers;
- Mei-Hung Chiu (Taiwan), data collection and analysing for evaluation of public, students and teachers;
- Erica Steenberg (South Africa), data collection and analysing for evaluation of public, students and teachers.

Evaluation

One of the results of our first YAC project ([2003-055-1-050](http://www.iupac.org/web/ins/2003-055-1-050)) was that ownership of the YAC idea (promoting chemistry by young students) proved to be essential for sustainability in the visited countries (Taiwan, Argentina, Russia and South Africa). The approved new project tries to find answers to the question: how to secure local sustainability of the YAC idea after the first YAC course / event organised by IUPAC? An elaborate set of instructions and answers to the following questions can help future local organisers to make choices and help them to find (new) sponsors (for sustainability):

1. Differences in perception about chemistry before and after the YAC course / event with teachers, students and the public.
2. Differences in perception about chemistry of teachers, students and the public between the visited countries.
3. Opinions of (an) external evaluator(s) about the YAC course / event.
4. Local problems to organise a YAC course / event in the visited countries.

Organisation

We originally planned to organise YAC courses / events for collecting data in Taiwan in 2007, Mauritius in 2008 (during ICCE 20) and Kenya in 2008 (during satellite conference). As Kenya wasn't able to organise any workshops, we spent the remaining money in Cyprus (Nicosia in April 2009), Malaysia (Ipoh in April 2010) and the Philippines (Manila in April 2010). During the project (after YAC Mauritius) we changed conditions to encourage local ownership. From now on countries / organisations could bid for YAC and had to find sponsors to cover local expenses, which Cyprus, Malaysia and the Philippines managed to do.

Evaluation results

1. **Differences in perception about chemistry** before and after the YAC course / event of teachers, students and the public.
Erica will report about evaluation in Cyprus during ICCE 21.
Mei-Hung will report about evaluations in Malaysia and the Philippines during ICCE 21.
2. **Local 'problems' to organise a YAC course / event**
After South Africa (2007), Taiwan (2007), Mauritius (2008) and Cyprus (2009), more data were collected in Malaysia and the Philippines. Results from Cyprus (incorporated in new, even more elaborate 'instructions for organisers' sent to Malaysia and the Philippines):
 - a. difficult to visualise the organization of the YAC event, because the organizers didn't see an event;

- b. clear instructions about age, level and the number of students needed;
- c. conditions for the 'formal' opening and closing ceremonies;
- d. exact quantities of chemicals needed for practical work;
- e. character of the presentation at the end of the event;
- f. involvement of language teachers.

This new set of instructions seems adequate, we didn't encounter major problems in Malaysia and the Philippines. Striking results:

- a. None of the visited countries up till now (10!) managed to obtain sponsorship from industry;
- b. Malaysia: 50% language teachers involved, in the Philippines a few;
- c. Malaysia: students aren't allowed outside the school, the YAC event was organised in a school hall, Philippines: YAC event in the dome of a (air conditioned) shopping mall;
- d. Malaysia: because of the competitive nature of (Chemistry) education (represented by a 'professional' jury and 'real' prizes for the winners), students mentioned 'easy' experiments, not made aware enough of the aim of the 'competition' during the YAC event.

Lida will report about lessons learnt, present and future of the YAC project during ICCE 21.

Publications

1. *Erica Steenberg, Lida Schoen, Young Ambassadors for Chemistry in Cyprus* Chemistry International 32, 4 (July-August 2010): (www.iupac.org/publications/ci/2010/3204/pp3_2003-055-1-050.html);
2. *Erica Steenberg, Lida Schoen, YACs conquer Cyprus*, SAW site, June 2009 (www.scienceacross.org/index.cfm?fuseaction=content.showcontent&node=690);
3. *Mei-Hung Chiu, Lida Schoen, YACs in Ipoh, Malaysia*, SAW site, June 2010 (www.scienceacross.org/index.cfm?fuseaction=content.showcontent&node=695);
4. *Mei-Hung Chiu, Lida Schoen, Young Ambassadors for Chemistry in Manila, Philippines*, SAW site, July 2010 (www.scienceacross.org/index.cfm?fuseaction=content.showcontent&node=696).

Future

During IYC 2011 new YAC activities are scheduled for **Ethiopia** (February 2011, combined with the Flying Chemists), **South Africa** (March 2011, follow up of YAC 2007, again during the Science festival in Grahamstown – not confirmed), **Tanzania** (March 2011, 'private' initiative) and **Puerto Rico** (July 2011, during the General Assembly – not confirmed).

Remark

On the IUPAC site: 57 [National Adhering Organizations](#) and 3 other countries linked to IUPAC with status [Associate National Adhering Organization](#).

Of our last countries involved Cyprus (since 2009) and Malaysia are NAO's, the Philippines is not present in the list.

Of our possible future countries involved all 4 are NAO's.