

The Heureka Workshops – some “hints” for organizers of the non-traditional conference for physic teachers



Irena Dvorakova, Leos Dvorak

Department of Physics Education, Faculty of Mathematics and Physics, Charles University in Prague, Czech Republic.

E-mail: dvorak.irena@gmail.com

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Abstract

How to prepare a conference which takes the form of a set of workshops prepared and led by the teachers themselves? How should it be organized? What is essential, and what is not necessary?

The experience from organizing this type of conference in the Czech Republic will be presented. The conference “The Heureka Workshops” has been going on since 2002. Despite the very informal character of this meeting (the conference venue is a school in a small town Nachod in East Bohemia, participants sleep in their sleeping bags, no welcome drink and conference dinner are organized); there are usually almost one hundred participants in attendance. This conference is open not only for participants from the Heureka Project, but also for guests – from the Czech Republic and from abroad. The whole event is very active and according to our colleagues from abroad who attended it, its character is in a sense unique even in comparison with teachers’ conferences and meetings in other countries.

Keywords: Teacher training in physics, Active learning and teaching methods, Community of physics teachers.

Resumen

Cómo preparar una conferencia que toma la forma de un conjunto de talleres preparados y dirigidos por los propios profesores? ¿Cómo debe organizarse? Qué es esencial, y qué no es necesario?

La experiencia de la organización de este tipo de conferencias en la República Checa se presentará. La conferencia “Los Talleres Heureka” ha estado sucediendo desde el año 2002. A pesar del carácter informal de esta reunión (la sede de la conferencia es una escuela en un pequeño pueblo Nachod en Bohemia Oriental, los participantes duermen en sus sacos de dormir, no hay bebida de bienvenida ni cena de la conferencia se organizan), por lo general hay casi un centenar de participantes en la asistencia. Esta conferencia está abierta no sólo para los participantes del Proyecto Heureka, sino también para los clientes – desde la República Checa y del extranjero. Todo el evento está muy activo y de acuerdo con nuestros colegas extranjeros que asistieron, su carácter es en un sentido único, incluso en comparación con las conferencias de los profesores y las reuniones en otros países.

Palabras clave: Formación de profesores de Física, Aprendizaje activo y métodos de enseñanza, Comunicación de los profesores de Física.

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I. INTRODUCTION

Teacher training in physics is a very important and sometimes very complicated problem. Teachers need to learn new information about physics, need to communicate and discuss their problems with other colleagues; on the other hand, they do not have much time (and/or much money) to attend many seminars. That’s why they choose carefully which seminars are really useful for them.

We have twenty years’ experience with organizing seminars for physics teachers in the Czech Republic. The Heureka Project [1], which is the name for these activities, includes both teaching physics at schools based on methods

very closed to IBSE (inquiry based science education) and teacher training.

We organize several types of seminars. All of them are realized on weekends, they are informal, voluntary, and free of charge, with accommodation at the school. In spite of these conditions we have more than one hundred active participations in the Heureka Project; most teachers take part in our seminars for several years.

In this paper we would like to inform about one of our activities – the conference “The Heureka Workshops”, and to offer an invitation to the next (already the 11th) year of the conference in 2012.

The second aim of the paper is to share our experience with other organizers who are thinking about preparation of

some similar conference. We would like to help them to find answers to questions mentioned in the abstract:

- How to prepare a conference which takes the form of a set of workshops prepared and led by the teachers themselves?
- How should it be organized?
- What is essential, what is not necessary?



FIGURE 1. From one of the workshops.

II. THE HEUREKA WORKSHOPS – BASIC INFORMATION

“The Heureka Workshops” is an annual conference prepared both for physics teachers and for students – future physics teachers, who attend any of seminars of The Heureka Project, and for guests, too. There were about one hundred participants (some of them with their children) in 2010.

To allow teachers to attend the conference without problems in their schools, we organize it during the weekend – from Friday evening till Sunday afternoon, usually at the beginning of October.

The characteristic attribute of this conference is its form. The whole conference is organized as a set of workshops (18 workshops were prepared in 2010, one of them was canceled due to the illness of its leader). There are no invited speakers, no lectures, and no formal meetings. Each workshop takes 90 minutes and repeats typically four times. The time of the conference is divided into eight sections (one section on Friday, four sections on Saturday and three on Sunday). In each section, participants can choose one of about seven or eight workshops (for a better idea see Fig. 2). Saturday evening is reserved for guests from abroad and their presentations, experiments, etc. in case they do not want to lead a workshop.

The Heureka Workshops 2010 - PROGRAMME																			
	Workshop	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.
Friday																			
19.00	opening																		
19.30 - 21.00	Workshops		X			X	X			X			X		X			X	
21.10 - 21.30	What is new in The Heureka Project																		
21.00 - 22.00+	free program, guitar, singing																		
Saturday																			
8.30 - 10.00	Workshops	X		X	X	X					X	X						X	X
10.15 - 11.45	Workshops					X		X					X	X		X	X	X	X
	lunch, sightseeing Nachod																		
15.00 - 16.30	Workshops	X	X	X	X			X				X			X	X			
16.45 - 18.15	Workshops		X				X			X	X	X	X				X		X
	dinner																		
19.30 - 21.00	time for guests from abroad (Latvia, Mexico)																		
21.00 - 24.00+	free program, guitar, singing																		
Sunday																			
8.30 - 10.00	Workshops	X	X			X	X	X		X				X	X				
10.15 - 11.45	Workshops			X	X			X		X		X		X		X		X	
12.00 - 13.30	Workshops	X		X			X				X				X	X	X		X
13.40 - 13.50	closing																		
x - time slot of a workshop																			

FIGURE 2. Programme of the conference “The Heureka Workshops 2010”.

The workshops are prepared and led by teachers from schools or from University. The active work of participants is an essential requirement for each workshop. There are no other limitations. The topic could be a set of experiments, measurement of some properties of materials, games useful for physics teaching, but we have learned also about *Physics in karate* or *Physics in dancing* in the past. Every year we are surprised how many interesting ideas the teachers have.

As mentioned above, the conference is very informal. It takes place in the high school of a small town Nachod in East Bohemia, where one of the active teachers from the Heureka Project works. Participants sleep in classrooms in their sleeping bags, bring their own food, there is no welcome drink or conference dinner. Maybe this informal character supports the friendly atmosphere of this meeting. Teachers can talk to each other while eating or before sleeping, there are no formal barriers there.

We are pleased that guests from abroad come to Nachod every year in spite of the fact that the conference is led in the Czech language and living conditions are far from luxurious. According to our experience, there was never any problem with mutual understanding – either the head of the workshop is able to speak both Czech and English or somebody translates for a foreigner. Some of our guests described their experience and impressions from the conference in reports published in international journals (see Swinbank [2], Planinsic [3], and Milbrandt [4]).

III. PLANNING AND PREPARATION OF THE CONFERENCE

Our first piece of advice for potential organizers of this type of conference is “don’t worry”. Provided you have several people who are able to prepare really active workshops, your conference will be successful. According to our experience teachers always appreciate “hands-on” and “minds-on” activities. The number of workshops depends on the expected number of participants. No more than twenty people should be in one group, but the leader of the workshop can restrict this number if he needs. His task is also to prepare necessary equipment for his workshop, of course (see Fig. 3).

Maybe you will have difficulties to find people who are willing to prepare a workshop. Teachers sometimes have doubts about their ability to lead a workshop, to show some interesting experiments to their colleagues. We solved the same problem at the beginning. But nowadays we have so many teachers who are keen to prepare some workshop that we have to postpone some of them for the next year’s conference. We think it will be the same in your case if you make your conference a living tradition.

The other important attribute of this type of conference is the possibility each participant can arrange his or her own schedule. It is necessary to ask leaders of workshops not only for the title of their workshops, but also for a short abstract. The abstract should be written like an invitation, an enticement for teachers. The programme and a list of

workshops with their abstract should be released prior to opening the conference to help participants prepare their schedules.



FIGURE 3. From the workshop “What to do with lenses”.

Your first conference can have less scope than “The Heureka Workshops”, but, if it is possible, keep the informal character of the conference. A conference venue in a congress hall and accommodation in a four stars’ hotel are not the right conditions for this type of conference.

IV. THE CONFERENCE IS BEGINNING...

Let’s assume that the program is ready, workshops are prepared and participants are registered. Before they come, the conference venue (in our case the school) must be adapted. We usually prepare several notice boards, where the program and abstracts of workshops are put up. In addition to this information each workshop has its own registration form there, where participants sign up for each timer slot of the workshop.

Teachers coming to the school are welcomed by the organizers; they get a name tag, find a place for sleeping in some classroom and sign up for their chosen workshops. As you can see in the programme, we start the first section just after a short opening.

Apart from the workshop leaders maybe the most important person in our conference is the one, who is the timekeeper with a big brass bell who loudly signals the beginning and the end of workshops. You cannot expect that each workshop leader will be able to observe the right time without those signals and finish the workshop in time. It is important that all workshops start and end at the right times to avoid any delays – these would destroy the whole timetable.

Workshop leaders have one small advantage – they need not reserve a free place in other workshops. Because they have much less time to visit experiments of their colleagues, they are allowed to visit multiple workshops during one section.

V. EVALUATION OF THE CONFERENCE

In case you would like to get quick feedback about how satisfied the participants were with the workshops, you can use a simple method. Before the closing ceremony you can pass out several (e.g. three pieces of) colored stickers to each participant and ask them to identify the three most interesting or most useful workshops. Participants can put their stickers on the registration paper of selected workshops on the notice board. Everybody can directly see what workshops were “the best”.

VI. CONCLUSIONS

In this article some brief information about “The Heureka Workshops” conference organized for physics teachers in the Czech Republic was presented. We described how to prepare the conference which takes the form of a set of workshop led by teachers themselves, what is necessary to arrange during the conference and how to get immediate feedback from the participants. All these hints proved to be

useful and are the results of our nine-year experience with this type of conference.

We would like to invite readers who are interested to participate in next year’s conference which will be organized at the beginning of October 2012. There was already one participant from Mexico in “The Heureka Workshops 2010” and we are open to further participants from all over the world.

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