Platform of Local Authorities and Communicators Engaged in Science

Modules used: A2, C1

Science Event

2012

This is a standardized version of the original case analysis number 25. Specific names and locations have been substituted from the original document number 25 with generic references in order to preserve the anonymity of every participant.

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Abstract

In its 25 years of existence, this science event has had the aim to communicate science and culture related with biology and natural environment. The science event is a consolidated event that has a great prestige and appeal in university, society and especially in education centres of the region.

This report aims to assess the impacts of the science event on its public and on actors involved in the organisation. Methods used were based on the *PLACES Toolkit for the impact assessment of science communication initiatives and policies*. Specifically, modules A2 (Standardized survey of visitors; n=237) and C1 (Semi-structured interviews with relevant actors; n=6) were used.

This study confirms that the science event of the local university, as a science event, has had important impacts on its visitors, mainly local students that visit it with their teachers and classmates before choosing their degrees. From the experience of their teachers, and also of organisers and university professors participating in the week, the event has a great impact on students because it represents a unique opportunity for them to see the university and the faculty, and also to have access to the real world of what will be a possible professional career for them. In such a way, the event has contributed to motivate young students to biological and natural science degrees. Visitor surveys also confirm that students enjoy this event and have a very positive opinion about it. Many of them are repeating visitors and they really appreciate its role as an important event of the city. Most visitors tend to agree that learning in the event is more interesting than doing it at school or academy and also that it is more interesting than visiting an art gallery or participating in another cultural event. Many of them also searched more information about science resulting from their visit, and a few even explained that they felt more confidence about their capability to discuss scientific issues with friends.

Although main impacts of the event are on visitors and not on actors (that is, people involved in the organisation, professors or scientists participating in activities, teachers coming with their students and journalists covering the event), these actors admit their participation in the event has give them some benefits. Among them: 1) possibility to network with other actors, 2) increase in visibility and image, including media interest, and 3) improvement in their communication skills.

Some aspects that could increase the impact of this event are a better coordination among actors and a more personalised way of contacting journalists, thinking in their particular informative needs and not just sending an impersonal press release.

Introduction

The science event has been celebrated annually in the city for the past 25 years. During a week, the faculty of Biology from the local university hosts open days, conferences, and round tables geared mainly towards elementary and secondary school students. Open days include activities such as hands on experiments for younger visitors, lectures by professors of the faculty and panel discussions on current scientific topics. The event also includes an annual photography competition and an exhibition of works by faculty professors.

The aim of the event is mainly to promote Biology as a vocation by presenting the discipline's many facets and its impact in our culture and the day to day environment. At this point, the science event has established itself as a very well known event, especially among elementary and secondary schools in the city and the region at large.

Each year, the event is organised by the Dean and the staff of the faculty of Biology, with the Committee on Cultural and Socio-Sports Services of the local university. Every year it aims to renew the content of the event, increase the variety of its activities and involve more students, teachers and administrative staff in its organisation. On 2012, the science event involved the coordination of over 25 students and staff from the faculty of Biology, accommodating more than 800 visitors though out the week. At this point, it should be said that the city (and also a region) has over 500.000 inhabitants in its metropolitan area.

The really long tradition (25 years) of this event is unusual in the country, and makes it an opportunity to explore its impact. Particularly, we will assess the impact of this activity at two different levels: the public who went to the event, and the actors who collaborated in its development.

Methods

The methods applied in this case study were taken from the *PLACES toolkit for Impact Assessment of Science Communication Initiatives and Policies*. Modules A2 (standardized survey of visitors N=237) and C1 (semi-structured interviews with actors N=6) were used. The next table summarizes the dimensions analyzed and the modules chosen.

	Science Centres and Museums	**Science Events**	**Science Cities**
Public		Institutional Sources about Visitors (documents, website, information from organizer) *Standardized survey of visitors:* ***MODULE A2 (n=237)***	
Policy Sphere			
Actors		*Semi-structured interviews with relevant actors:* ***MODULE C1 (n= 6)***	

Table 1. Modules used for each dimension analysed.

Cooperation from the local university, and particularly from a professor that was also the organizer of the event and her team, was very helpful. They help with all the information asked and facilitated our entrance and all the requirements to carry out surveys among visitors.

Four representatives from another university were present during the event to administer the surveys face to face during the 4 days (morning and afternoon) that the event was running. Representatives stationed themselves in the front hallway of the Biology department, at the exit/entrance of the event. The survey form used had been previously translated from its original language to the national language and adapted for the event studied. Respondents were mainly secondary students aged 16 and up. Other respondents included elementary and secondary school teachers, members of the faculty of biology and other members of the community visiting the event. All surveys were compiled in an Excel document, and analysed by SPSS.

The selection of the actors to be interviewed was made by the main researcher with assistance from the main organizer of the event. Selection criteria for interviewees are that they should be individuals who either had a long-standing history of participating in the event or who represent entities that

have a tradition of supporting it as well as other science communication initiatives within the region. The interview schedules administered included question for: scientists, school teachers, media and public administration. Interviewees included two teachers accompanying their students to the event, a professor from the Department of Biology that has participated in the event since its first celebration in 1998, the director of the event that is also professor from the Department of Biology, the secretary of the Department of Biology and a local journalist specialised in science for more than 5 years. All interviewees accepted to participate and were very collaborative.

Interviews were conducted between 20 February and 24 February. They were recorded and subsequently transcribed.

To preserve some confidentiality of interview partners, information and statements quoted in the following analysis are not specifically attributed to individual partners. Name and institutions of interviewees are listed on Annex 1.

	Code	**Position**	**Task at Event**
	Teacher 1	Professor at the local university	Organizer
	Teacher 2	High school Teacher	Accompany students. Organization support
	Administrative 1	Secretariat	Administrative support to organizer
	Researcher 1	Professor at the local university	Organisation support. Participated at the First The science event 25 years ago
	Researcher 2	Professor at the Local university	Organise activities
	Company Representative 1	Representative youth federation	Organise roundtable

Table 2. Interviewees' distribution (names of people and organisations in Annex 1)

Results

Results 1: Survey of visitors of the science event

Visitors and visits

Demographics

From 223 interviewees, 58.6% were men and 41.4% women. The average age is close to 20 year old (19.91). Most of the public is also close to 20 years, although minimum age detected was 10, and maximum 63. This results show how the event has a strong attraction to young people, as high school and university students. Nothing unusual considering that the main goal of this event is to make Biology appealing for new students.

	N	Min	Max	Average	Deviation
Age	223	10	63	19,91	5,746

Table 3. Distribution of ages

Repeated visits

More than a half of visitors (56.6%) repeat in their visit, and 40.5% visited the event for the first time.

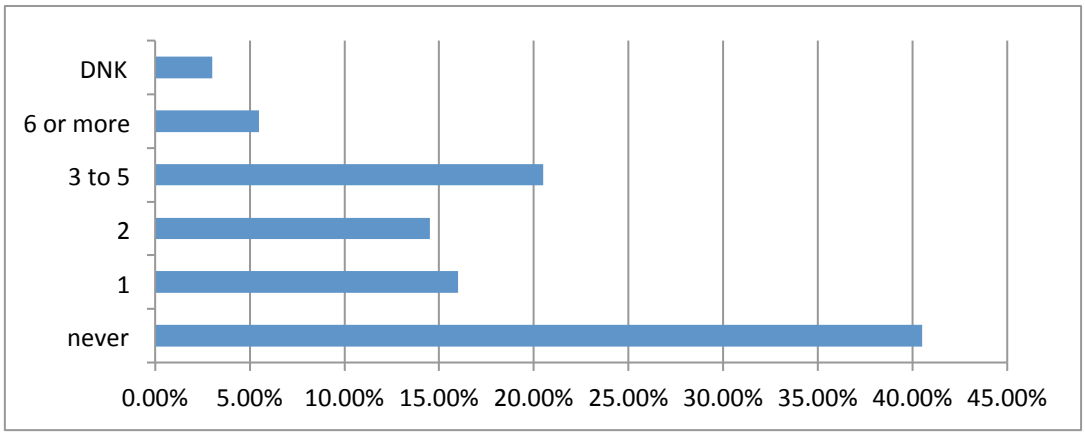

Figure 1. How many times did you visit this science event before today?

Most of the visitors came with their classmates (49.8% in the present visit, 37.5% in the last visit), and very few people (14.9% in the present visit, 17.9% in last visit) went alone to the event.

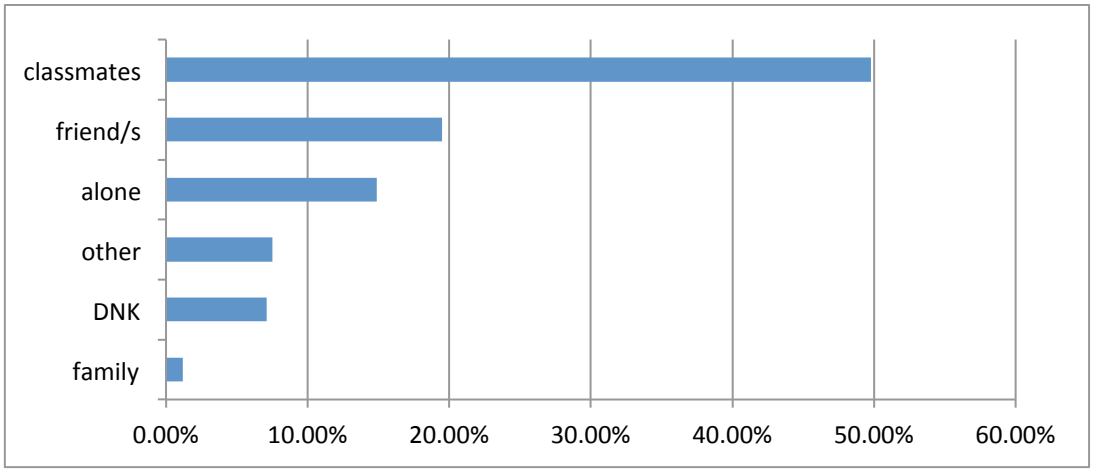

Figure 2. Have you come with…?

Their interest in science issues

Visitors at the science event have a positive idea of science, recognising its value and its relationship the daily life. They think that science will make lives easier, healthier and more comfortable (92.4% positive answers) and think that is important to know about science in the daily life (96.2% positive answers).

Impact of the science event on visitors

Cultural and educative interest

Most of the visitors (63.9%) think that visiting this event is more interesting than visiting a gallery art or a cultural event.

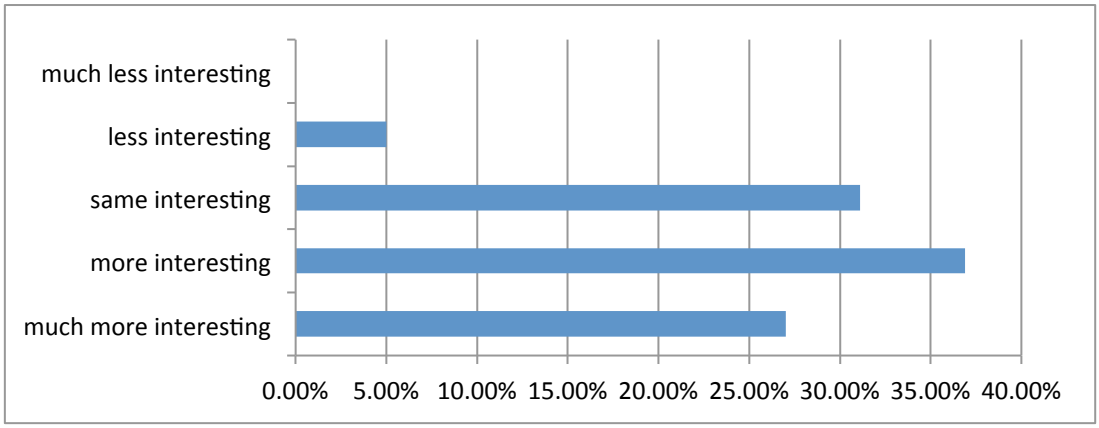

Figure 3. In comparison with an art gallery or a cultural event, do you think that this science event is…?

In a similar way, the experience of learning about science is positive, and 64% of the visitors think that is more interesting learning science in the science event than in school or academia. Only 5.1% think that it is less interesting than a regular class.

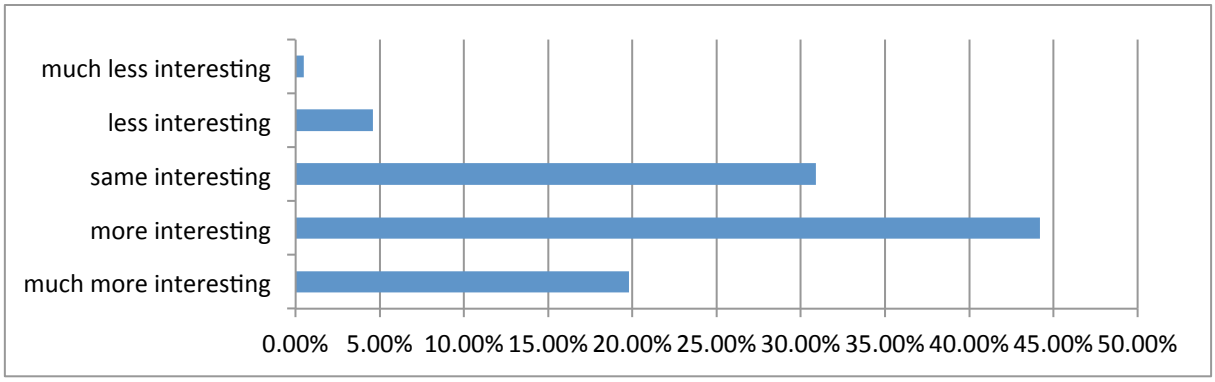

Figure 4. In comparison with learning in school or university, your learning experience here, at this science event is…?

Impact on their quality of life

Intellectual curiosity

Visits increased the interest on scientific issues in most part of repeated visitors. 68.3% of them searched for more information on science after the visit.

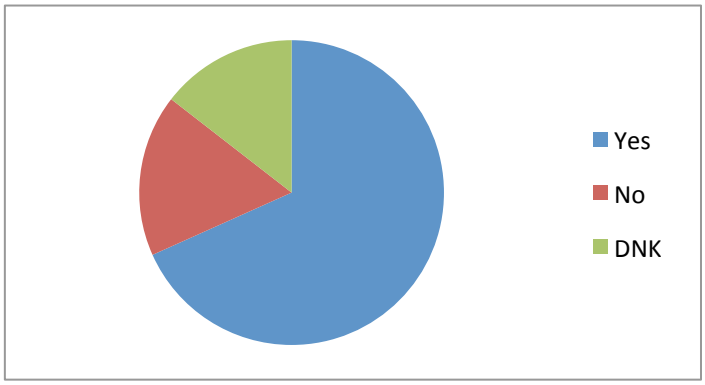

Figure 5. Have you searched more information after your visit, as a consequence of it?

Self confidence

Most of the visitors don't think that visits to the event had impacted on their self confidence (their perceived capability to discuss scientific issues), but 33.8% of them (that is, 1 each 3 interviewed) felt a little more confident after their visits and 3% felt much more confident.

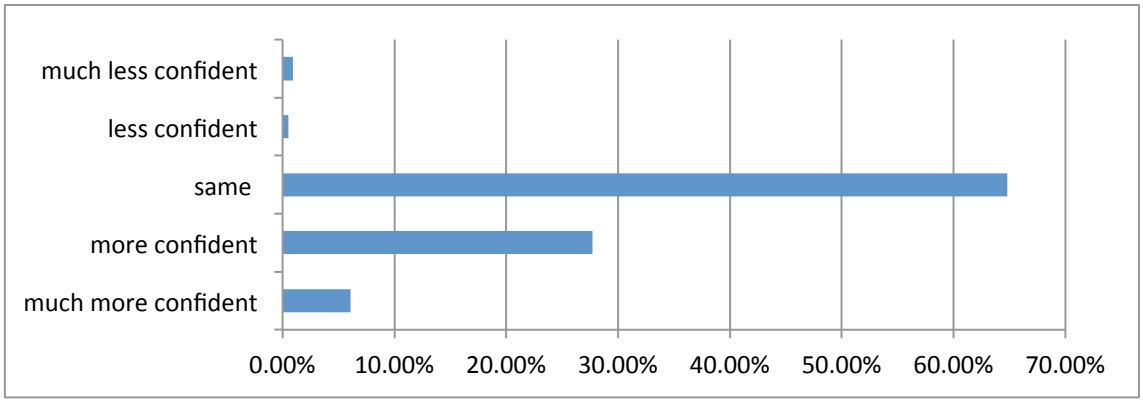

Figure 6. Did you felt more confident after your previous visits to this science event?

Impact of the science event on the city

Most visitors think that the science event plays an important role in the cultural life of the city (69.6%), but less than a half consider it as an important symbol of it (46%) or that it plays an important role in the economic development of the city (46.3); those who think that it is a main tourist attractions in town are even less (only 28.6% agree with that).

Finally, most of the polled visitors ignored if the city was declared or not a City of Science (67% of "I don't know" answers).

Results 2: Interviews with actors of the science event

Responses to the questions are grouped below under the two parts indicated in the PLACES guide for semi-structured interviews: the interviewee's involvement in the case, and the impact of the event on the interviewee. Each interviewee is quoted with a code name (Teacher 1, Researcher 2...). There are some interesting points that are largely shared between the interviewed and are worth noting.

- The efforts needed to organise and participate in the event are substantial. But they seemed worth since of the great impacts on actors.
- The science event gives prestige to the university and faculty, and also to researchers and participants, who can share their work and knowledge.
- The event's objectives are achieved. Biology is presented as a subject with future for students and actors involved improve their networks.

Interviewee's involvement in the case

Concerning the reason of participation, responses varied greatly depending on the role of the actor interviewed.

For teachers, the main motivation is helping students and increasing their knowledge.

¨I wanted students to see something else than what they see in class. I wanted them to get a different perspective by seeing things and doing activities that we don't normally get to do in class¨ -Teacher 2-

For scientists, they enjoy approaching science to people, communicating their work and showing people how useful and exciting can science be.

Organisation and participation are a challenge [...] It is nice to see the enthusiasm and response of the audience. It is incredible how some conferences appeal to people and how they like them. But also is disappointing when some activities don't have any response. –Researcher 1-

All of them agreed on the interest of meeting new people and new connexions.

"I am always excited to participate in this event. It's the contact with people that I really enjoy¨- Teacher 1-

The role and contribution of each actor differs widely. High school teachers must bring students to the event, and organise the trip. Researchers manage the different activities and make close contact with the participants. Organizers have to manage funds and contact researchers and schools. Each actor has a role that makes possible the event.

Within this segment of the interview, questions also regarded what kinds of investments and efforts were made by the interviewee as a result of their participation in the case. Of course different types of investments were made by different types of actors, but all of them agreed in the hard-working required. It is a difficult task that employs lot of people and time, and is organised during all the year.

Scientists involved in the organization of the science event found that it was a major investment of time.

We need time to organise and get funds. I was almost all the year thinking on the science event, and also four months of hard work. –Researcher 2-

For teachers involved in the science event it was also a significant time effort to organize the trip to the event. They also had to make sure that students were able to finance their trip since it involved the extra cost of bus rental, etc. The main effort is promoting participation and organising the trip.

All actors agreed on two important factors needed for the organisation: time and money.

It requires lot of time. You cannot improvise. All visits must be organised very carefully, school by school, to avoid overcrowding. –Teacher 1-

We need time and money to organise everything. Four months working at full-time. I was almost the whole year thinking and organising the event –Administrative 1-

Impacts on actors and on publics

All interviewees think that main impact of this science event is not on them as actors, but on the students and young people that come to visit the event. However, they recognise that the event has also benefits for actors involved (in this case, university professors and staff, school teachers and journalists.

Educational value and career motivation

For teachers, the benefits of participating in the event are mainly focused on the students attending it. Teachers highlight the value of having students seeing some of the real-world applications of the topics they're beginning to learn. They also highlight the impact that this event has on the student's motivation in their selection of a scientific career.

The students get a chance to see real objects and participate in real experiments; these are things they won't forget. –Teacher 2-

Motivation is very important. They see real application of science, see the Faculty, and see the future. -Teacher 1-

Networking

Concerning impacts of this science event on actors, scientists emphasize networking as a major benefit:

It's a great time to make contacts. Every year we meet new people who may be interested in providing funding for the science event and other things too. Through the new contacts we gain new funders, new ideas for future collaborations and even for future research projects. –Researcher 1-

However, for scientists involved in the organisation of the event, their emphasis is not on making contacts for any of these purposes but instead, on the students and their experience at the event.

The administrative staff point how the participation in the science event has benefits for her as part of the organisation team.

I had personal benefits because of my participation: you feel good when there are good results, and also you can meet interesting people. Even the communicating prizes seemed nice to me. –Administrative 1-

In any case, all interviewees agree in the importance and interest of networking in this event:

You make lots of contacts, for funds, ideas, participants and even research ideas.- Researcher 1-

The science event is a great way of meeting new people –Company Representative 1-

Image and visibility

About the possible benefits for the image, most interviewees agreed on how beneficial participating in the event is. At any level (School, faculty, personal...) this event has a great impact on the image:

The science event gives prestige to the Faculty because it is better known. Young people and children know that we exist; there is a big interest and big participation. Media focus on the event more and more every year. –Administrative 1-

We like to be known, of course [The science event] *improves our visibility [...] Media and institutions know that we are here to help them [...] Compared to other events, participation in this one is better because there are more students involved.* –Company Representative 1-

The image of the center improves with this kind of events. It is good to go out from the school and experience outside activities –Teacher 2-

Despite the general satisfaction of organisers about the media interest in the event, the journalist interviewed explained that it could be even better covered if organisers used other communication strategies for journalists apart from an impersonal press release.

I have received press releases this year and we've posted a couple of short news and a photo. If I had received a call or a personalised email telling me about the particular interest of any of the speakers or activities, I could have attended it and prepare a longer text about. Trying to imagine which activities in the program are or are not interesting (as news) takes a lot of time. And time is something that journalists don't have. – Journalist 1 -

Communication skills

An important part of the event is that professors have to adapt the language to their public and they also learn communication skills. Some of the actors pointed out how they adapt their language, but some others also remark that students must become familiar with technical language.

You have to adjust the language to the audience; something easier for those who have been teaching for years, because is easier to find the exact words. –Researcher 1-

Students must become familiar with technical language, especially in Biology. It would be perfect if they could learn some Latin or Greek. –Researcher 1-

Conclusions

This study confirms that the science event of the local university, as a science event, has had important impacts on its visitors, mainly local students that visit it with their teachers and classmates before to choose their careers. From the experience of their teachers, and also of organisers and university professors participating in the event, it has great impact on the students, because it represents a unique opportunity to see the university and the faculty, and also to have access to the real world of what could be a possible professional career for them. In such a way, the event has contributed to motivate young students to biological and natural science degrees. Visitor surveys also confirm that students enjoy this event and have a very positive opinion about it. Many of them are repeated visitors and they really appreciate its role as an important cultural event of the city. Most visitors tend to agree that learning in the science event is more interesting than doing it at school or academy and also that this event is more interesting for them than visiting an art gallery or participating in another cultural event. Many of them searched more information about science as a consequence of their visit, and a few even explained that they have felt more confidence about their capability to discuss scientific issues with friends.

Although main impacts of the event are on visitors and not on actors (that is, people involved in the organisation, professors or scientists participating in activities, teachers coming with their students and journalists covering the event), these actors also admit that their participation in this event has given them some benefits. Among the main benefits:

1) Possibility of networking with other actors

2) Increase in visibility and image, including media interest

3) Improvement in communication skills.

The science event has a key role in the cultural area of the city, but it cannot be considered a symbol for the city. Moreover, it does not have a particular role in attracting tourists nor in providing economic benefits.

Recommendations

Some aspects that could increase the impact of this event are a greater coordination among actors and a more personalised way of contacting journalists, taking into account their particular informative needs and not just sending an impersonal press release.

References

1. De Semir et al. (2012) *The PLACES toolkit for the impact assessment of science communication initiatives and policies.* Barcelona: Universitat Pompeu Fabra.