Platform of Local Authorities and Communicators Engaged in Science

Modules used: A1, A2, B1, B2, C1

Science Event

2012

This is a standardised version of the original case analysis number 18. Specific names and locations have been substituted from the original document number 18 with generic references in order to preserve the anonymity of each participant.	
In case you would like to read the original document, please contact occ@upf.edu.	

Contents

Abstract	4
Introduction	5
Methods	9
Results	14
Conclusions	23
Recommendations	26
References	28

Abstract

In the context of the PLACES project, this case study addresses two popular science events: one launched for the ninth time in 2012 and one the international science communication competition Fame Lab. The study aims to reveal the peculiarities of each of them, focusing on the organisation of the assumptions, processes, results, as well as existing and potential interconnectedness within the framework of the European project PLACES. The question packets following PLACES Toolkit have been developed to adapt this case for organisers, actors and participants.

Methods used in this research: web site and document analysis, direct (not virtual) questionnaire, semi-structured interview, participation in research, monitoring, primary documents and analysis of publication flow. Representatives from the British Council, public body "Science and Innovations for Society", science and education institutions participated as stakeholders and organisers of this study; teachers, researchers of universities participated in the study as actors; high school pupils, students, young researchers from faculties of universities, and research institutes —as participants. About 200 respondents completed the survey, and 16 semi-structured interviews were conducted.

The study showed that the science popularisation activities analysed were evaluated by participants positively, but the attendance was led by more external than internal motivation factors. Leading lecturers of science popularisation activities were led by economic reasons, but rather because of business and organisational factors, the ability to promote one's field of study and search for future students in a suitable represented search. Different scenarios of events were analysed, but analysis of the scenario realisation revealed, on one hand, the rich and active use of local resources and, on the other hand, still a large space for their improvement, searching for deeper mutual business and organisational interfaces, searching for accelerated science popularisation activities with quality, supply and demand improvement.

Introduction

Two science popularisation events were deliberately targeted out of many occurring in the country: the national science festival and the international science communication competition Fame Lab. The first of the events selected was organised in the country in 2012 for the ninth time, and the second one, just for the second time. A science festival as a science popularisation format has examples in many countries. In the country of this research, it is characterised by a format based on local traditions of popular science events. The festival, which started in the city, was conceived by an active promoter of education and developed into a national science festival. Help with its realisation for the first time was provided by the British Council in the country, which also supervised the organisation of Fame Lab. Both events differ in their experiences, massiveness and scenarios; however, both of them are interesting and important to national science popularisation, both individually and also with potential interactions between connections. Since Fame Lab is oriented at improving communication skills of people on popularising science and the science festival named above covers a wide range of communication activities and is an integral part of the application of this kind of competence, cause-effect relationships are undoubtedly highly relevant.

In the processes of positioning science in society it is important to develop the synergy of science popularisation programmes and projects, building on diversity and compatibility of local and international formats of science popularisation projects, event organisers and participants in the social networks. Design primers of this kind already exist in the country. The national academy of sciences, together with its partners, are implementing a project in 2011–2014 curated by the Ministry of Education and Science and the European Social Fund Agency, "Development and implementation of national science popularisation system tools" (2012). A study based on this project was created, books of popular science were selected, and 12 of them are planned to be published, 4 reports from a visual cycle were prepared and an access-free e-module aimed at the development of communication competencies for scientists was developed by university researchers (national science popularisation through a system development and implementation, 2012).

The study "Science popularisation system" (2011) states that the country lacks scientists who could clearly present research results to the public; until now, the country lacks a system of effective popular science competitions and bonuses; it has no institution coordinating science popularisation. It encourages looking

toward a more rapid and more diverse research of results of scientific events functioning in the country, with the design and implementation of recommendations for their improvement.

Both in this and other countries, there is an eclecticism of the projects performed, and although there is a good communication between them, they also lack continuity and interoperability may be observed. Therefore, projects that seek to address these aforementioned problems are extremely important in this context. One of them is a European project that offers a wide and diverse community of actors a common platform to structure their science communication activities, at city/regional level. The project was created using "The PLACES Toolkit for the impact assessment of science communication Initiatives and Policies" (reference 2). The purpose of this paper is to examine features of the science festival and science communication competition Fame Lab and their specifics, emphasising the assumptions of organisation, processes, results, and links and differences between a systemic approach to the organisation of science popularisation events and usage in the context, which will generate more science and society relationship quality and efficiency in the future through the framework and methodology of the project PLACES. Among the targets set is the identification of three-axis characteristics of participants, organisers/stakeholders, actors; motivational characteristics-block identification, analysis of audience participation in events and self-motivation, individual choice-promotion insistence dichotomy for assessing the content of the event organisers and the participants' position identities and highlighting the diversity on all common managerial, economic levels, and so on. Analysis and recommendations, hitches to improve the preparation processes.

In this project, Fame Lab is treated as a factor for improving the quality of the science festival for one of the main problems of popular science events in the country, as in many others, this being expertise in participants' communication and motivation.

Fame Lab is an exciting competition to find new voices of science and engineering across the world. It started in 2005 in the UK with Cheltenham science festival, in partnership with NESTA, and has quickly become established as a perspective model for better identifying, training and mentoring scientists and engineers to share their science communication competences in their subjects with the public. Fame Lab in the country of the present study started in 2011, so it is a new event, initiated by the British Council in the country. The national Fame Lab does not have a separate website and the information was spread through the website of the British Council in the country. It contained the following sections:

- "What is Fame Lab?" The model presented as familiar from the TV programs like Pop Idol;
- "What is Fame Lab looking for?" Organisers are searching for the new faces
 of national science that will be able to develop their ideas and presentation
 skills for a TV and non-specialist audience;
- "Eligible criteria. Preparing and Participating" Last national Fame Lab was organised in a city on 28 April 2012 and on 5 May at a national energy institute in another city;
- "The participants of the competition" Finalists had an opportunity to participate in two-day Master classes.

The Fame Lab finals took place in a city of the studied science event. Presentations were in the national language, but the Master classes were in English. The winner of the national Fame Lab participated in the final contest in another country in the summer of 2012.

The manager of this science event in the country was DK. The format of the national Fame Lab is similar to the one from its original country. Fame Lab is aimed at Formal, Physical, Life and Applied sciences, without the field of Social and Behavioural sciences (e.g. Geography, Linguistics, Economics, Political science, etc.). Organisers were looking for researchers who worked on applying science, technology or mathematics, engineering in industry, business, armed forces or government bodies. In 2012, 15 people participated on the first level; 9 people participated in the Master class.

About sponsors and partners: Media partners were the national television and radio, 15 minutes weekly; national gallery (sponsor of the venue for the finals); national energy institute –partner in disseminating info and organising heats in a city; public organisation –partner in organising heats in another city; website portal representatives of Eurodesk –partner in disseminating info; Students' representatives of a university –partners in disseminating info. The final took place in the city on the 26th of May. The winner was Dr. JK, lecturer at the chemical technology department at a technological university. The finals were broadcast on national television for the first time. There were around 200 people at the national gallery.

The annual science festival, organised by a public body, is one of the most prominent ones. The festival includes research workshops and interactive shows. The approximate number of participants in 2011 was 10,000; in 2012, about

12,000. The festival started in 2004 and was mainly held in two cities. The festival took place for the 8th time in 2011, lasted nine days and comprised about 160 free events (in 2012, about 150). Due to its growing interest and popularity, in 2011 the festival events took place in five major cities and in 2012 too.

The festival has a personal website. It contains seven headings, covering not only the festival, but also scientific trends, links to schools, and similar issues. The festival is organised with the support of a European social fund, governmental and public organisations. The Ministry of Education and Science is providing consistent funding for organising this festival; for example, between 2005 and 2009, funds of around €8,600−23,700 were provided; their distribution by year has not grown steadily and has an eclectic character. In 2012 the festival was marked by a significant number of participants and, like last year, had a rich and varied events schedule.

There are 20 organisations in this event's list of friends. Participants in the festival are 25 organisations, and if university departments were presented as individually positioned organisations, the number of participants would rise to 30, as well as a further 34 organisations from four other cities. One of the festival's functions is to help scientists present their work to teach and better interact with the audience. "Scientists are not representatives of show business, but direct contact with the audience is necessary. The festival aims to make the lecture material comprehensible to ordinary people: that was and remains one of our most important goals," said the soul of the festival, Dr. RM.

Methods

PLACES performance toolkit recommended methodology was applied for this case study. Three levels were applied for the analysis of the selected subject: public, local policy sphere and actors.

On the level of analysis, the reports of the organisers, other documentary materials, and event websites were analysed. Following Module A1, five semi-structured interviews with participants of Fame Lab were held. They were:

- JK, lecturer at local university of technology;
- GP, bachelor of Molecular Biology in local university;
- SS, doctoral student of Geological Sciences at local university;
- ND, doctoral student of telecommunications in the faculty of Electronics at local university of technology;
- JB, doctoral student in the faculty of Chemistry at local university.

According to Module A2, a poll of 205 respondents, mainly participants of the science festival, which was also integrated by the participants of Fame Lab, was conducted. On the second level, four semi-structured interviews were conducted.

Module B1 was conducted with stakeholders/administrators from a national and institutional view. These included:

- Mrs DK, an employee of the British Council, project coordinator and coordinator of national Fame Lab;
- AV, chief of public institution on science and innovation for society;
- Dr. DMB, deputy director of national energy institute;
- Dr. EA, the science festival part-time coordinator at local university of technology.

In module C1, seven semi-structured interviews were taken at the third level by four lecturers of the science festival:

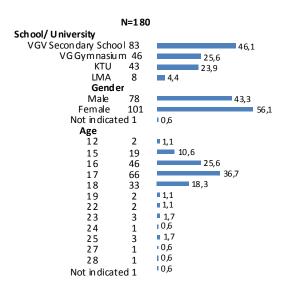
- EK:
- Dr. H, professor at local university of technology, who gave a lecture on smart materials;
- NB, a lecturer at local university of technology who presented achievements in field photography;
- Dr. SS, researcher at an institute of biochemistry who gave a lecture on sequences.

And two of the judges of Fame Lab were Dr. GV, researcher at national institute of biochemistry, and Dr. AG. Dr. H, professor in the faculty of basic sciences in the department of physics at the local university of technology, also taken under Module C1. Since Dr. DMB from the national energy institute was not only a partial organiser of the national Fame Lab 2012 at an institutional level but also the judge, she was interviewed as a judge as well.

Organisers were asked about their attitudes towards a range of popular science events in the country, their trends, and issues of popular science event identity were examined, their benefits for the country and the city authority. Participants were discussed, issues of financing respective activities were revised and lessons and actions to increase the efficiency of the event with further plans were learned. During the interview with the administrator/curator of the scientific event, uses of additional motivational and economic leverages were discussed as well as issues regarding selection criteria for the actors, competence selection criteria of the actors, approach of the administration and colleagues, the level, etc. During the interview with a lecturer of the science festival or a judge at the science communication competition Fame Lab, the questions were related to the involvement motivation, personal effort, the level of communication skills, the difficulties encountered, organisation and evaluation of the audience and experience gathered and analysis of proposals on how to improve the event. In the interview with Fame Lab participants about their involvement in the event, their motivation, experience, organisational advantages and disadvantages of the event, proposals for improving it and follow-up of science communication skills improvement plans were emphasised. Question schemes were in the national official language; their translations into English were prepared in Module A1, B1 and C1. Interviews, together with a modular A2 structured questionnaire, were prepared for semi-structured interviews, and they are presented in the annexes. The questionnaires were intended to have 10 questions, which led to the desire to maintain a unified form and content design.

Additional methods were also applied during this case study, such as investigation while participating and observation (events discussed in the national academy of sciences were observed and participated in), analysis of primary documents (event organisers' report), analysis of publications (web portals) and flow (Module B2). Using the extensive PLACES toolkit, a questionnaire for participants at the science festival was developed (Module A2), and 205 participants (all distributed in the actual space) had the opportunity to express their views on visiting a specific festival event. Events and random selection of participants were determined by factors like time and material resources. Composition of the respondents participating in the questionnaires was divided as follows: most participants were from VGH secondary school (46.1%) and VGG secondary school (25.6%). Science popularisation activities took place in their schools. Mixed audience, students, pupils and researchers (LAS and KUT). Amount of respondents from KUT was roughly the same size as VGG secondary school. Participants from LAS answered distributed questionnaires less actively.

Table 1. Composition of participants in the research (amount, gender, age)



Questionnaires were completed several days after the events in which the researchers were directly involved. VGH secondary school lecture was set on the 19th of September 2012 at 12:00h. However, it took place a week later by lecturer DB on a topic about miniaturisation in space exploration. The event in VGG secondary school took place on the 18th of September 2012 at 12:00h. Professor RK, a member of LAS, presented a modern conception of the universe. Both events were marked by the huge scale of participation; the number of participants in each school greatly exceeded a hundred. 23.6% of respondents were interviewed in the local university of technology, where about 50 pupils and students participated in a lecture about intelligence by professor EK on the 14th of September 2012 at 13:00h. However, in the same faculty of the local university, NB was presenting achievements in photography, and that lecture was attended by over 50 pupils and students. 4.4% of respondents were interviewed in the national academy of sciences, where 2 events were held in the grand hall. The first was devoted to genomics by Dr. SS (14th of September 2012 at 17:00h), and the second one was orientated towards tomorrow's law prediction (18th of September 2012 at 17:00h).

From the methods of presence and observation, it can be stated that the number of participants in the first lecture was more than double that of the second, a similarly assessed activity by number of questions and reflections. A questionnaire was held immediately after the lectures. Participants were motivated to reflect on the benefit of individual participation in science communication events, as well as to improve their communication skills and a deeper understanding of

their study choice or further learning. The study collected 205 questionnaires, 180 of the completed ones were selected for computer processing (technical work was done by sociologist GL from a market research company). A percentage distribution of answers was identified and a correlation between questions was made on processed statistical analysis and data processing software. The questionnaire consisted of 10 question blocks, dominated by semi-closed questions. In the demographic part, one was asked to identify him/herself, his/her age, education or research institution. Gender was identified by names, because in the national language they specify the gender. Participants reflected on motivation of selection of participated event, self-evaluated its usefulness for knowledge. contacts and guidance from a professional perspective, analysing the event content, form, attractiveness, and they emphasised, in particular, what was needed in this kind of event (him/herself or the organisers). It was clarified in what other popular science events respondents have been involved to date, and this event will encourage further interest in popular science events in the future. It has been suggested to compare scientific and artistic events visited in the sense of interest. Approach to science popularisation channels of real and virtual space context was studied, and it also focused on the best possible way to examine the world of science: individually or with a teacher, practitioner or friends.

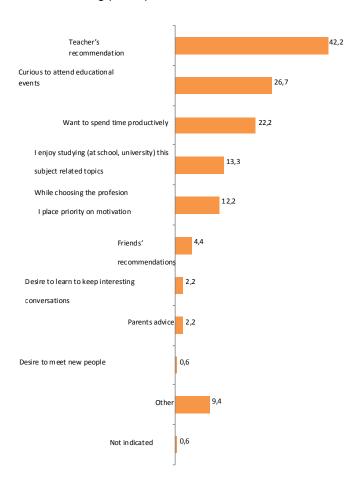
Results

Public level (Module A1, A2)

Following guidance of PLACES Toolkit, first considered were the public level and the most important event in terms of effectiveness: the reaction of the audiences. If the science festival is assumed to be essential, then it shows not only the achievements of science in communication, but also which problems are to be solved by Fame Lab and other academic events.

Surveys of participants of the science festival showed that gathering audiences for popular science events was mainly influenced by teachers and lecturers. 42.2% of participants were encouraged by teachers and lecturers. Friends (4.4%) and parents (2.2%) did not play a major role in this context.

Table 2. Motivation of and motivating participation in the science festival



A relatively small focus of participants was there thanks to self-motivation or to choose a profession, and this requires further analysis. Bearing in mind that studying social sciences, particularly management and law, is disproportionately high compared to sciences oriented to technology in the country, there is a significant number of unemployed graduates which could and should be used to improve professional guidance in science popularisation activities which should be carried out more precisely.

Table 3. Point of view of science festival participant on benefits from this event

	New contacts	Enhanced my motivation to study in particular university	Enhanced my motivation to study, but not in a particular university	New and applicable knowledge	New useless knowledge
School					
VGH secondary school%	6.0	1.2	9.6	42.2	32.5
N	5	1	8	35	27
VGG secondary school %			13.0	43.5	
N			6	20	20
KUT %		23.3		51.2	18.6
N		10		22	8
LAS %	12.5		12.5	37.5	50.0
N	1		1	3	
Gender					
Male %	3.8	3.8	9.0	48.7	26.9

N	3	3	7	38	
Female %	3.0	7.9	7.9	41.6	36.6
N	3	8	8	42	37
Age group					
12 - 18 %	3.0	6.6	7.8	44.0	33.7
N	5	11	13	73	56
19 - 28 %	7.7		15.4	53.8	23.1
N			2	7	3
Total: %	3.3	6.1	8.3	44.4	32.8
N		11	15	80	59

As shown in Table 2, the science festival event for local secondary school pupils who attended the lecture was more significant from the point of view of accumulation of knowledge than motivation. Up to 42-43% of participants obtained new and applicable knowledge, similar to the percentage of people in VGG who said that they have received new barely applicable knowledge; however, there were 11% less students from VGH secondary school that stated the same. Participants who attended the event organised by the science festival at the local university of technology were more satisfied with knowledge obtained in terms of practical applications (51.2%). Moreover, 50% of participants in LAS rated them as new, but poorly adoptable. In terms of enhancing the efficiency of motivation to study, events did not reach the desired effect in the group of 12-18 year-olds (14.4%). Another number indicating that the assumptions and the communicability situation are poor is that only 23.3% of respondents established new contacts during the festival. A greater proportion of respondents liked the events' content and the form of the lectures held at the LAS: it was given an evaluation of 87.5%, KUT 51.2%, events held at VGH secondary school 50.6% of the respondents. Girls/women enjoyed the events more than boys/men: respectively, 51.5 and

46.2%. Moreover, older people (group of 19–28 years) enjoyed the events more than younger people (12–18 years): respectively, 61.5 and 48.8%. There were more of those who liked only the content (11.7%) rather than those who enjoyed the form only (2.8%).

It would probably be appropriate to pay more attention to such an important component of the event as the quality of the visualisation in the future. More than half (60.6%) of the respondents acknowledged that the event they attended needed the respondent him/herself in particular. They argued that it was three times more necessary for schools than for universities (six times less). About 7% of respondents stated that the organisation of the event was successful because of the organisers, yet the same amount of respondents thought that the event needed to improve the city's image. In VGH secondary school, it was mostly emphasised that the event was needed for the school more than respondents themselves. It should be mentioned that 72.8% of respondents were attending a science popularisation event for the first time. This shows potential trends for an uncovered audience. Among those who participated for the first time, 5% of respondents found the science festival to be the most appealing, because it was fun and provided a lot of new knowledge.

Participation in the events analysed led 45% of respondents to participate in other popular science events in the future. "No" to future participation was indicated by 9.4% of respondents. However, as many as 40% of respondents said they "are not sure", and this is a significant challenge to expand the audience base. "Yes/no" was more often actively chosen by boys/men, while the most prevalent answer of the girls/women respondent group was "not sure". More motivated respondents were mainly participants from events held in the national academy of sciences and in the local university of technology, as they enthusiastically expressed their willingness to continue participation in such events. 6.7% of respondents already regularly participate in popular science events.

The country has a very extensive range of arts events to offer. Both on the national and international level, classical music, jazz, folk music, sung poetry, rock and similar festivals, art plenaries and shows take place not only in big cities but also in small towns, during different times of the year. There is a prevailing tradition of attending arts events not so much through academic or educational institutions as through families and friends. It is therefore interesting to compare how the respondents evaluate attendance of popular science events, compared with attendance at arts events. 28.3% of them considered it as "equally interesting"; 26.1% as "much more interesting"; 22.2% as "a little more interesting". It seemed "less interesting" to 17.2% of respondents, and "completely uninteresting" to 2.8%.

Both events were considered as "uninteresting" by 2.2%. Popular science events were evaluated favourably, as "more or less interesting", by the younger age group audience (i.e. 52% and 30.8%). Out of these two features, the popular science events are specified as more interesting by more than 40% of respondents, among whom the younger age group dominates. Therefore, it should be seen as a positive tool for the future mobilisation of science popularisation activities for audiences. On their way to the world of science, only 16.1% of respondents prefer an individual approach. To be introduced to the world of science, the best company is an experienced practitioner, researcher or investigator (55.0%) or friends (33.3%). It is also good to go with a teacher (22.8%), but not treating him/her as a wizard from the world of science. An insignificant part did not specify anything. It turns out that men and women, highlighting the role of experienced practitioner, do not specify his/her potential role similarly. 7.5% of men highlight the practitioner, whereas 37.6% of women pay more importance to friends, and men, respectively, 28.2%.

In summarising the science festival audiences, it can be said that the respondents are motivated to participate in this kind of event by the teachers and are satisfied with the scientific knowledge gained during the festival and content of the event. From the form of the events, respondents are waiting for more original solutions, and sophisticated visualisations. Classrooms are poorly self-motivated. Although respondents correctly assess that the activities primarily benefit them, their self-concept does not justify expectations of authors to choose study programmes and universities represented by them. Through results of this investigation, the audience at science popularisation events should be considered as a sought element (72.8% were first-time participants, 45% firmly decided to participate in such events in the future and 40%, almost as much, were undecided).

A favourable circumstance is the growing interest in scientific events and the absence of their confrontation with the lack of attendance at arts events. Respondents became involved for the first time not because of the popular science events, but because they distinguished the festival as an interesting and useful activity, though other popular science events are mentioned much rarer and are described as eclectic, mostly local in nature.

Other positive preconditions for the further popularisation of science events in the cultivation of participant willingness and ability to coordinate activities in virtual and physical spaces, are: the interest of science events in the real space, the priority assignment of scientific knowledge of the world in the presence of an experienced wizard, the nature of the activities designated for a team rather than the individual, which is less favourable to certain areas and activities of individual researchers. All suit science popularisation formats.

The respondents focused on improving the form of lectures, and a large percent said the events had acquired new but useless knowledge, and the fact that it was more interesting to go deeper into the world of science with practitioners than with teachers, as they show the communication competency gaps and untapped reserves (some of these gaps were intended to be eliminated).

Another object examined in this study was the science communication contest Fame Lab. The participants in the study expressed their views on the organisation process, the results of their achievements and motives of involvement and perspective. Contestants emphasised that they joined the competition Fame Lab because they care about gaining professional competence in the context of their chosen profession, want to promote it, encourage young people to choose their field of study, and then the researcher's profession (AU, ND, JK, SI). During the competition, participants of Fame Lab received new applicable practices, knowledge and contacts; they have awakened the desire to self-initiate similar events (JK, AU). "This event made it clear that we need to look for opportunities and possibilities to popularise science right now, rather than waiting until you are a professor, and then try to tell students everything interestingly" (SI). The winner of the contest was JK. SI actively participated in the science festival by applying the lessons learned in the Fame Lab competition. By the way, almost all the research subjects have defined their competence in the field of communication assessed as improved by 1-2 additional points after the competition tender, and only SI stated that he remained on the same level of 7 points.

Participation in Fame Lab took more time than personal resources (ND). Only JK mentioned a financial contribution in addition to time. SI had to think about self-motivation. In AU's opinion, efforts remained in the background; the Fame Lab gave him "new energy and ideas". Participation in the Fame Lab was the first baptism for ND, SI and AU in popular science events. The participants enjoyed the high level and quality of this event: famous people, good professionals (AU), but there were also critical comments and suggestions. "At the end of the competition, I asked myself, so how should a three-minute popular science speech sound? Is it even possible to tell about science in three minutes? It is probably possible, but clear requirements and a clear target audience should be set. All speeches given were similar in that way; they were addresses for 10 grade students. Maybe this is why we received the invitation to participate in the science festival?" (SI). Maybe that is why SS was critical of judges. Other participants in terms of assessment accuracy limited themselves to a short "yes." SI gave specific suggestions on how to structure the popular science speeches, depending on the specifics of the audience, in what cases it is appropriate to have a professional jury, and when commission functions might be performed by the audience. "The biggest challenge

is to fascinate researchers with science. Evaluators are a very competent commission, and it is best to be evaluated by a panel made up of popularising science scientists, science journalists, and if the popular science speech is performed for an educated listening audience, this would be the best evaluator" (SI). All participants agreed that Fame Lab should be better promoted. "Maybe there should be more advertising through the popular radio and TV" (JK). The city has not seen any posters. "One of the little ones noticed some announcements were posted in a public space of my institution" (AU). Participants were guided by the information gathered on the Internet. ND proposes to "increase the awareness of Fame Lab, explaining the importance to the scientists". In JK's opinion, Fame Lab should be developed in the whole country, and later a final competition for pupils should be held.

Actors (Module C1)

In this part, opinions from two groups of actors (judges of Fame Lab and lecturers of the science festival) are analysed.

Most Fame Lab judges evaluated Fame Lab audience of participants as the average crowding activity, represented by the subject of qualifications and communication skill senses (GV). Low in the sense of crowding and active, represented as average by the subject, and qualified in terms of communication (AG), who also suggested that increasing Fame Lab usefulness/effectiveness should be carried out by focusing on pre-publicity. "Publicity should be organised, posting relevant content posters in universities and colleges, but also through the national student unions and taking advantage of their transmission capabilities. Bigger participation would attract the attention of television. Researchers' Nights and other similar events are on a larger scale, but this event has the potential to grow and gain a competitive edge in the future and find its place in the spectrum of national popular science instruments" (GV). Both judges drew attention to the problems of objective evaluation. Further analysis of the work of judges highlights the challenges of a communicative nature: "one's decision should be learned in order to formulate more concise, clearer and greater understanding of the participants" (GV). "It seems that some participants remained unhappy because of potentially too harsh an assessment" (AG). Both judges of Fame Lab were included by its administrator and coordinator in the country (i.e. the British Council), but the involvement motive was a single, and otherwise self-humanistic urge for concrete actions to contribute to the popularisation of science in the country's improvement. Judges were paid for the work. "By participating in Fame Lab, I did not think about my institution, I participated as a volunteer, although later it realised that the British Council had paid royalties. In short, the fact that my institution

appeared on TV could have some kind of symbolic benefit, but the benefits and rewards of authority were hardly a factor for my participation in the project" (GV). "I did not receive a reward for my voluntarily participation" (DMB).

Yet another group of actors are the lecturers at the science festival. Their involvement in the popular science event is also characterised as analogous to the civic humanistic motive of judges, but there are also many other reasons. Among them, a willingness to help their institution and to attract more students to the curated programmes (NB, EK). Some of them were involved in order to gain new self-experience in this field (NB), for some an important objective was to test the popularity of their area of research in the public space (SS), the desire to be more visible, to be observed by an audience, the media (EK, SS). The hardest thing for lecturers is usually to explain difficult things in a simple way (SS, EK, NB), to find the connection with the audience. Science communication experience of these lecturers was drawn from special training programmes on education communication skills (SS, EK, NB). It was also learned from knowledgeable colleagues, and friends, and lecturers did not limit themselves with years of study experience. Lecturers have worked with average, sufficiently active and attentive audiences. The science festival was generally well received, as "it is developing the expansion of scientific knowledge" (SS). However, there were some critical remarks: "there is no support from the organisers. No prizes for students, and when there were, they were, for example, old magazines of illustrated science. It was also considered a big time consumption (NB). EK: "major criticisms of the event organisers are absent; however, it should be noted that some went over the heads of the target audience by not focusing on the topics and the content of the event". Therefore, he offers to organise a wider advertising campaign and to focus on the individual topics, rather than trying to cover everything at once. SS offers expanding the circle of participants who directly correlated with the goals of the Fame Lab. NB offers to seek more investments for the event.

Local level (Policy sphere) (Module B1)

The last part of the logical sequence of events of test results is the expectations of each investor/operator, aspiration and opportunity analysis of that already expressed by the participants and actors in the context of ideas.

Semi-structured interviews performed with stakeholders/organisers of the events revealed positive experience and some of the shortcomings in the organisation. First of all, issues with event budgets and funding mechanisms, and human resources arise. A public institution on science and innovation for society hosting the science festival for its third year emphasised that, together with

partners, it has successfully financed this event for the past two years after winning the competition of the European Social Fund Agency. However, after 2013, the funding prospects of this festival are uncertain. The format of the public institution is not conducive to the involvement of sponsors, and collaboration with other participants of this project is based on financial agreements. In the opinion of the director of the office, AV, "none of the country's popular science events have a sufficient budget". Organisational processes in the office are "driven by" two people for a whole year, with the pooling of helpers only when the festival approaches, during its preparatory phase in spring. A staff of 400 actors and sub-coordinators is covered during the festival, who communicate with the festival audience of thousands of participants (based on data from 2012, up to 15,000 people have participated). Established informal collective experience, knowledge and a wellworking pre-registration system (in 2012, up to 9,000 people have pre-signed for the events), were positively valued. However, partial coordinators would like to see bigger support from the organisers, at least in the form of promoting participants (EG).

The independent initiative of the science festival was led by science festival experiences and traditions from other countries; the national science festival is a member of the science festival association. In its space, the very popular in the country Researchers' Night has set out on its path. However, according to actors, it has a distinct national identity, and its scope is national. "There is no physical means to contact with organisers of other events or the Fame Lab and coordinate our specific actions" (AV). Despite the fact that the British Council has contributed to the implementation of two major popular science initiatives in the country, the small budget and limited human resources are a relevant problem for the organisers of the Fame Lab (DA). While both science popularisation activities help to improve the scientific culture in the country and educational processes, guide and increase the visibility of scientific organisations and their staff, this is done, however, with an approach of "a bit of everything", without any sustainable priorities layout (AV, DA, EA, DMB). The country requires science events and centres that coordinate popular science events (AV). Then it would be easier to motivate and mobilise broad layers of society to attend science popularisation activities.

Conclusions

In the country, case studies on science popularisation activities, the science festival and science communication contests like Fame Lab (and their long-term goals) have to be examined to contribute to the popularisation of science in society actions and quality improvement. However, their formats and scripts are different (the science festival is from the local to the national level, an event characterised by an international science competition format). They differ in their organisation experience (the festival in 2012 was the ninth, the contest was the second one), and the organisers (public body of science and innovation for society and the British Council in the country). Different events of life science festivals take place in autumn, in September; the contest takes places in spring, May and June. Deeper links between the two organisers have been noted, as the British Council has contributed to the starting position of this science festival. The scientific competence of the majority of the actors involved is similar, so in the absence of a common policy for their organisation, they are still intertwined through their performance, and they complement and support each other. Fame Lab creates potential lecturers of better science communication quality for future science festivals, and the science festival contributes to the Fame Lab with its publicity and subsequent formation of social order. However, their interrelationships are not deep enough. Also, in general, the two events are still waiting for the creation of a national science popularisation activities system, which would be compatible with common targets and mutual goals, the organisation of time, resources, management, integrated communications, and other points of view.

There are differences in the processes of scientific events examined. The science festival organisation is characterised by pronounced self-organisation elements. It is called the "Science and Innovation Society" by the official organisers of the public institution, a winner of financially support from the Agency of the European Social Fund, which essentially relies on efforts of organisations, mainly universities and research institutes, based on their intellectual and material resources (in the first case, with additional unfunded lecturers; in the second, most with facilities, equipment and materials). Organisers are taking care of specific information for the publication on the website, are creating an informal "gold fund" of lectures and are publishing a comprehensive programme as a separate publication in liaison with the media. The science festival is a one-stage event, with no awards or incentive schemes. Detailed coordination of the competition from the beginning to the end is completely in the hands of the British Council, and information about the competition is published on their website. There is a positive

two-stage contest. Having a small budget for financing judges and education institutions, they collaborate on a voluntary basis and are given support with facilities and other necessary small resources. The event has a two-tier international format and a clear rewards system. The audience differs between these events: the education festival stands out with its overcrowding (the volume of audiences is calculated in thousands); the Fame Lab is characterised by a small number of participants, about twenty, and later the audience increases, for example, through participation in public debate. When examining the involvement and motivation of the organisers, participants and actors in selected events, a trend of actors volunteering in the science festival event was observed, as well as concerns about the improvement of the situation in the country and their good selfmotivation for participation. The participants of the science festival were mainly motivated by teachers or lecturers, (42.2%); neither friends (4.4%) nor parents (2.2%) played a major role in this regard. For the city secondary school pupils who attended the lecture at the school, the science festival event was more significant in terms of knowledge. Motivation to study in terms of enhancing the events did not reach the desired effect in the age group of 12-18, 14.4%. Poor figures showed the increase in the communicability situation, with new contacts established during the festival for only 23.3% of respondents. A greater proportion of respondents liked the event content and form, but lacked sophisticated visualisation and more original solutions of form.

When comparing a popular science event attendance with an art event attendance, it can be observed that 48.3% of respondents preferred popular science events. This fact, together with the fact that this approach is more common in the younger age group, suggests that popular science event attendance has a positive perspective. Essentially, however, popular science classrooms, based on the survey results, have to be considered as something to be achieved rather than achievements (now regular participants in science popularisation events 6.7% of respondents, 72.8%. From first-time participants, 45% are firmly decided to participate in such events in the future, almost as many, 40%, are undecided). Lecturers rated audiences as average, fairly active and attentive; the most difficult for them was to tell complex things in a simple way and to find a connection with the audience. Though lecturers had science communication experience, communication problems from the results still dominate.

Therefore, participants of the Fame Lab competition and actors achieved timely results, and further outcomes are encouraging. Most of the Fame Lab participants were properly self-motivated, improved their communication skills and applied them in practice, a significant part of the festival being focused on spaceships and natural science. Fame Lab participants lacked clear assessment

criteria for the orientation task of future audience differentiation. The judges also drew attention to another more objective evaluation of search problems: they rated Fame Lab participants' activity as moderate, represented by the subject of qualification and communication skill senses. Participants, judges, festival lecturers and part of the organisers acknowledged that the publicity of the events should have been better. Popularisation of science communication events in a public space is currently one of the most prominent problems and further improvement is one of the biggest requirements. Other problems are managerial ones (in the case of the festival) and concerns about more sustainable content, strategy and marketing activities (in the case of the Fame Lab). A wider circle of participants from the two events could have been placed in the unrealised space for synergies to increase.

Although none of the events is fully visible in the public spaces of the cities in which they took place and still have no significant budgets or business investment organisations, their growth rates are favourable in the context of building science and society relationships.

Recommendations

It is appropriate to establish a science centre in the country in the near future that would concentrate science popularisation initiatives in order to develop a national website of science promotion events. It would allow visitors to track all popular science event schedules taking place in the country in one place, and the authors could effectively choose or adjust future event dates to mobilise audiences better and organise feedback more effectively.

More focus could be placed on the professionalisation of the most important popular science events: science festival, science communication competition Fame Lab, internal and external communications, cooperation with the graphic design department of the local academy of fine arts in the preparation of science popularisation activities for internal and external communication visualisation, and on topics of internal communication to improve close work with universities and research institutes (this could be a bachelor-level work). Moreover, public relations departments for the external communication could plan processes to include professional public relations agencies that would generate visibility, reputation and popularity of science event brands.

Besides this, the policy of the science festival should be targeted, highlighting the areas of science and the disciplines where the country has the most remarkable achievements, as well as positioning the academic fields and disciplines where human stock is most expected in the future. More active forms of involving participants in the workshop could be found, and also of organising the festival, with sophisticated visualisations and more original material formats. While maintaining its own identity, it could copy ideas from other successful events such as the Researchers' Night.

In the Fame Lab format in order to raise science communicator competences for the different audiences targeted, formulating the tasks for participants, improving the indicators of assessment of judges, linking Fame Lab and the science festival more closely with interaction ties –organise a round-table discussion with organisers, coordinate space, time, motivation and self and financial factors, and similar contexts. Comprehensive and well-reasoned science popularisation activities, evaluation criteria of audiences, politicians, actors, and levels should be developed, as well as a way to improve players' and actors' awards with an incentive system. Improving the event funding mechanisms, paying attention to the barriers generated by public procurement, seeking stimulus to involve business in funding popular science events and improving coordination in

the use of available resources. The country, which has a long tradition of art events, with their abundant supply and demand, should develop common art/science popularisation activity packages that promote inclusion of wider audiences.

References

- 1. Adomaitytė A. (2012) Scientists from the laboratory into the public of the festival.
- 2. De Semir et al. (2012) The PLACES toolkit for the impact assessment of science communication initiatives and policies. Barcelona: Universitat Pompeu Fabra.
- 3. Maskoliūnas, R. ir kt. (2011). Popular science system.
- 4. Maskoliūnas, R. ir kt. (2012) *National popular science instrument system development and implementation.*