

## Comment

### TRAINED TO INTERACT

# Mediation within science centres and museums. The guides of Universum, México

## Concepción Ruiz Ruiz-Funes

*ABSTRACT: The creation of a scientific culture through the experiences that can be offered in a museum is the central theme in the training of guides at Universum. Emphasising the social importance of science democratisation, providing the public with the chance to enjoy science itself, conceiving it as a human creation of extreme beauty, giving it the chance to be appreciated and enjoyed, presenting it from the different fields where an approach to it is possible, is something difficult to achieve outside a science museum and impossible without the intervention of the anfitriónes.*

### Universum

Universum, the Museum of Sciences of the *Universidad Nacional Autónoma de México*, is located in the *Ciudad Universitaria* of Mexico City.

It opened on December 12<sup>th</sup>, 1992 and has been visited ever since by nearly ten million people.

The museum covers a 27,000 sqm indoor area and a 5,000 sqm garden, hosting fourteen permanent exhibition halls, three rotating exhibition halls, a facility for science workshops, two theatre halls, a 3D cinema hall, a planetarium, a library and different areas where to put on scientific demonstrations.

### Scholarship holders-Hosts

In order to welcome, assist and guide its public, Universum employs a staff comprising 265 students referred to as *anfitriónes* (hosts). This name was chosen since the origins of the museum, given that in Mexico the word *anfitrión* (host) is implicitly associated with an idea of courtesy, friendliness, warm welcome and care.

These students come predominantly from the *Universidad Nacional Autónoma de México*, but they also come from other universities of the city. They belong to all the areas of knowledge: science fields, engineering, human studies, psychology, pedagogy, letters and arts. They enter Universum as scholarship holders, hence they have to adhere to the general scholarship regulation of the University. They must have completed at least 50% of their university career, they need to have at least a 8.5 mark average out of 10 and to be available for museum activities 20 hours a week. Only people aged 18 to 25 are eligible for a scholarship, to be granted on a monthly basis for two years only. Scholarship extensions are not allowed.

### Selection

Every six months, Universum issues an official announcement calling for new scholarship holders. The candidates enter a selection procedure which firstly certifies they comply with the official requirements to receive a scholarship from the University. Subsequently, the staff of the Scholarship Department of Universum interviews personally each one of the candidates. The interviews concern their appreciation of science popularisation, their possible previous relations with this field and their professional aspirations with regard to it. Another point assessed during the interviews is the candidate's aptitude to

deal with the public, especially with children. After the selection procedures, the selected students are automatically enrolled in an introductory course.

### **Introductory course**

The introductory course comprises five sessions lasting three-four hours each. The purpose of the course is to illustrate to the students the museum structure, what additional halls and spaces it comprises, what its departments are and what activities are carried out in each one of them, introducing each member of the museum staff. The course deals also with the history of the museums of the world, especially science museums, to subsequently focus on the history of Universum. The goals of Universum are illustrated and a detailed description is provided on the pedagogic, philosophic, scientific and science popularisation currents that shape the theoretical guidelines of the museum. In any case, this short course is basically aimed at explaining to the students what the activities and the functions performed by a host are within the museum.

After the course, each student is given the chance to decide, together with the Scholarship Department staff, the room or rooms which they desire to be assigned to. When the selected room does not fit the student's professional education, e.g. a biologist choosing the Quantum Mechanics room, or a historian choosing the Mathematics room, then the student commits him or herself to take on an extra workload to study the subject and reach a satisfactory knowledge of the contents of the selected room. The room curator, in the following months, will provide the student with the scientific training he or she needs.

It has occurred in a few cases that, once completed the introductory course, some students, having properly understood the museum functioning and the activity they should perform there, decided to voluntarily drop out of the training process and of the scholarship.

Once the introductory course is completed, the students-hosts are assigned to a room and start a new stage, continuous training.

### **Continuous training course**

This course is mandatory for students: it lasts one year and is taught by Universum staff along with guest teachers from other museums or education and art institutions.

The continuous training of our guides covers the following aspects:

- Voice modulation
- Body language
- General scientific culture
- Popularisation strategies in museums
- Language use
- Types of public
- School groups management
- Special needs groups management techniques
- Vulnerable public management techniques
- Interactive equipment management
- Intangible heritage popularisation

In present-day science museums or centres, regardless of their country, one of the goals to be achieved is to spread within society the idea that science is a fundamental part of culture. When I say science I do not only refer to concepts or theories, but also and perhaps primarily, to the scientific forms of thought.

Therefore, it may be said that an interactive science museum houses, aside from interactive equipment and scientific collections, a huge intangible wealth, an immaterial intellectual and cultural heritage that should be enhanced, cared for and preserved.

At Universum, in the past years, the proposed strategy was to characterise the continuous training of the guides or *anfitriones* with a very important stress precisely on this point, the intangible heritage.

On the other hand, the training of the guides, as well as the tasks they perform daily, always consider the fact that the public is a community having its own interests, able to constantly provide feedback to the museum discourse. A guide never acts as an intellectual authority, her or she never suggests an absolute truth and always has to pay attention to the public in order to include any opinions, doubts and comments it expresses into his or her discourse. The museum team designs exhibitions that involve, most

of the times, the opinion of the public and consequently the speech of a guide should start precisely listening to the public, in order to understand properly what its necessities are. To achieve this goal, it is necessary to speak and to understand the public's language.

This point contains two aspects: one is the dissemination of the intangible intellectual heritage and the other is the horizontal relation with the public, both of which are given further emphasis during the continuous training course. Moreover, during this one-year course, students strengthen their academic education while learning science. For each of the hosts-students, the continuous training course reference teacher is indeed the curator of the room they were assigned to. His or her main job is to guarantee that the scholarship holder gradually acquires not only an important scientific knowledge, but also a proper understanding of the scientific content of the room.

### **The role of the guides or *anfitriones***

The museum discourse of Universum has been gradually changing and, over the past five years, it has been trying to favour, rather than the scientific results themselves, the ideas, the concepts and, above all, it has been trying to present the public with a clear illustration of the thought processes involved in knowledge generation.

Given that the *anfitriones* are the bridges or natural links between the public and the interactive equipment, they should necessarily be those who remove the iconic qualities from the equipment or object to transform it into a medium to convey the desired museological message or even to transform the interaction into an excellent pretext to have a conversation with the visitors.

The goal to be achieved is to make the visitors feel an active and involving participation during their visit and to make it possible even when they have left the museum. In order to learn about the public's opinion, different strategies have been developed: surveys, suggestion boxes spread all over the museum, a software for them to express their opinion on different aspects of the museum, etc. However, through experience we have realised that the most important link to the public, "the best way to listen to the public" is through our guides or *anfitriones*.

The museum is a very complex space which, through museology and museography, exhibits objects that are outside their original context; it is the museum staff that has in first place the responsibility to provide a new context to guide the perception of an object the visitor should have within the museum space. However, this task is to be refined and completed during the guided tours led by the *anfitriones*. Besides, the museological and museographical discourse aims at helping the visitors to achieve three levels of interactivity: a driving, intellectual and emotional interactivity. In any case, the public is able to achieve these three levels of interactivity without external help, i.e. the help of a guide; the host has the responsibility of trying to make the public go through the desired interactivity. The most difficult interactivity to be achieved, the emotional one, lies in most of the cases in the hands of the hosts; it is their attitude, their discourse and the approach they propose that primarily create the conditions for visitors to feel moved during their visit to the museum.

### **Social inclusion programmes**

Within the education and training provided to the hosts, a special stress is placed on "Social Inclusion Programmes" existing at Universum.

All the scholarship holders may enrol in special courses held by the museum that will provide them with the elements and the strategies to receive a public with special needs. Enrolling in these courses is voluntary, but it appears to be so interesting for the students that 85% of the population of scholarship holders end up attending the courses. There, the *anfitriones* learn the sign language to accompany the hearing-impaired during their visits, learn how to provide a guided tour to blind people, to people with brain paralysis, with Down syndrome, etc. Thanks to our hosts and the development of especially-designed visits, the population with special need is received at Universum with respect and dignity.

Also, the guides participate in the other social inclusion programmes provided by the museum. They receive training to work with street children, abused women from temporary shelters, elderly people with poor economic resources. In fact, and speaking very frankly, the guides themselves are those who make these programmes possible.

This implies a very important challenge for the museum, as the need arises to tackle very efficiently the integration of discourses and explanation on very different levels, always suitable for a very mixed and ever-changing public. The guides learn how to use an array of different instruments to convey messages and how to develop the strategies needed to grasp and attract so many different types of visitors.

Although the museum, in architectural and museographic terms, is the same for everyone, each one of these groups receive a different treatment because there is a discourse and a visit designed especially for them, conceived according to their needs, their contexts and the environment they come from. The guides receive, as explained above, a very intense training in order to achieve this objective: a plurality of discourses, a plurality of messages, a plurality of museums in a single museum, a museum for everyone.

And therefore, regardless of the social and economic origin of the visitors, or of their physical or intellectual skills, age and gender not being decisive factor, it is essential for Universum to encourage our visitors not to see themselves as passive subjects. To this purpose, the museum provides ways to establish an emotional and intellectual link with the visitors, through the exhibitions and their components in first place, but mostly through its guides.

This complex process requires the design of so many different strategies, including conceptual, museological, museographic, pedagogical, psychological and visitor service ones, so that the public, irrespective of its characteristics, can really have a significant experience of learning and acquisition of scientific thought forms and of the concepts themselves.

## Conclusions

The creation of a scientific culture through the experiences that can be lived in a museum is the central theme in the training of guides at Universum. Promoting the understanding of the forms of scientific thought, the most precious intangible heritage within the museum, is thus converted into the most important popularisation strategy to be taught to our students.

Emphasising the social importance of science democratisation, offering the public the chance to enjoy science itself, conceiving it as a human creation with an extreme beauty, giving it the chance to be appreciated and enjoyed, presenting it from the different fields where it is possible to approach it is something difficult to achieve outside a science museum and impossible without the contribution of the *anfitriones*.

*Translated by Massimo Caregnato*

## Author

Dr. Ruiz Ruiz-Funes received her degree and master's degree from the Faculty of Sciences of the Universidad Nacional Autónoma de México. Her teaching work pertains to the same Faculty, where she has been a lecturer since 1987 and where she was the coordinator of the Mathematics Teaching Seminar for seven years. Currently she teaches on the Master's degree in Science Communication at UNAM.

She worked for 15 years at the Science Museum, Universum; from 1993 to 2002 she was the head of the Mathematics department and from February 2003 to April 2008 she was the deputy director of the Universum Museum. During her mandate, she promoted social projects centred on the museum as an important forum for the gathering of different sectors of the population. She currently works at the Academia Mexicana de Ciencias, where she coordinates science popularisation projects.

She has published over one hundred articles on mathematics teaching and dissemination and three books on the same topics. She has spoken at over seventy conferences on mathematics and different forums, from primary schools to international congresses on science popularisation.

She has participated in different discussion and debate forums on the social implications of the public communication of science, a theme she has explored in some works presented at various international conferences. E-mail: [concharuiz@gmail.com](mailto:concharuiz@gmail.com).

**HOW TO CITE:** C.R. Ruiz-Funes, *Mediation within science centres and museums. The guides of the museum of sciences, universum of the Universidad Nacional Autónoma de México*, *Jcom* **07**(04) (2008) C04