

## The social dimension of the Museu de Ciències Naturals de Barcelona

ANNA OMEDES, MONTSERRAT BALLESTER, LETICIA GONZÁLEZ, LINA UBERO and PERE VILADOT. Museu de Ciències Naturals de Barcelona.

The Museu de Ciències Naturals de Barcelona opened in 1882 and is currently made up of 5 sites: The Historical Botanical Garden, the Barcelona Botanical Garden, the Nature Laboratory, The Martorell Museum and the Museu Blau. This last one was inaugurated in 2011 offering new services (classrooms for workshops, laboratories, conference room, media centre, etc.) and a landmark exhibition of 3,000 square metres, *Living Planet*, which harmoniously brings together the Museum's collections over its 134-year history. With its progressive approach to museology, it offers visitors the opportunity of choosing different ways in which to appreciate the themes covered at varying levels of depth.

The opening of the Museu Blau led to work beginning on the project for the new Museu de Ciències Naturals and a redefinition of its mission statement:

*«We generate and share knowledge with the aim of creating a society that is better informed, more connected and more responsible towards nature. We do this by maintaining collections that are the tangible testament of the natural heritage of Catalonia, doing research on biological and geological diversity, and creating experiences that encourage as many people as possible to explore, learn, love, enjoy, enter the dialogue and participate.»*

Priority 1 of the Strategic Plan for 2013-2017 is to become «an educational and accessible museum by means of strategic objective 1.2: To be an inclusive museum, working on behalf of everybody

and contributing towards social change». Our understanding of an inclusive museum is one that defends the objectives of equality so that nobody is seen to be excluded from enjoying its services and activities; not just people with functional diversities, but everybody who, for economic, social, cultural, age, physical or other factors, can't get to a museum or don't usually benefit from them.

One of the basic functions of the museum is the exercise of social responsibility, understood as the promotion of activities that go above and beyond achieving the objectives of the institution, investing more in human capital, in togetherness, in disadvantaged sectors of society, in relationships with social agents, etc.

### THE MUSEUM'S INCLUSION PROGRAMMES

The museum understands inclusivity to be a global concept that encompasses both the physical as well as the social dimension, and thus expresses its commitment through developing a series of initiatives inspired in the values of equality, accessibility and participation as a democratic expression of the public project and a means of reaching everybody and contributing towards social change by combating exclusion. All of the Museum's activities are infused with these values that are based along three conceptual lines:

**Equality.** The Museum is a major cultural resource that must be accessible to everybody and strive to promote equal opportunities and guarantee that

cultural and educational resources continue to be accessible to the maximum possible number and variety of people.

**Accessibility.** The museum provides the means for global accessibility on both a physical and communicative level, promoting equality of access for everybody regardless of age or physical and mental functionality. Social accessibility is developed through a pricing policy, special programmes, subsidies and assistance.

**Proximity.** The area close to the Museum offers an opportunity to establish strong links as a base for building relationships. Apart from a good knowledge of the area and working on social relationships, joint projects are being set up with association and educational networks.

The inclusivity programme of the Museum is a cross-cutting project that relies on all of the Museum's departments and requires creating synergies between the institution and social agents. Implementing the programme is a gradual process: each proposal is developed and consolidated (and expanded if appropriate) building on previous actions, thereby constructing an ever denser network of both small and large initiatives. By its very nature, the inclusivity programme of the Museum has a very wide scope.

## 1. Equality initiatives

The courses of action that are currently being undertaken are:

The **Travelling Museum**, a project for social groups unable to come to the museum itself such as those in Catalonia's prisons or youth detention centres, the long-term sick in hospitals and others.

**Activities for social groups at risk of exclusion**  
This has been started by organizing activities for youth and adult groups from the Trinijove Foundation in connection with the *Solidarity and Nature* exhibition (12-2013).

**Transport grants and activities for schoolchildren** for priority educational care centres in Catalonia and pupil groups in disadvantaged socioeconomic conditions.

**Providing spaces and running activities free of charge** for social groups at risk of exclusion.

## Detailed analysis of a singular equality project: The Travelling Museum

Our awareness of the occasional experiences of museums, especially art museums, in prisons throughout the region suggested a need for the Museu de Ciències Naturals to take action on behalf of all those people who, for one reason or another, were not able to travel. Out of this came the idea of the **Travelling Museum** project which started in penal institutions for adults and minors and which, in a second phase, was extended to hospitals for the benefit of the long term sick and thereafter to other social groups that also have difficulties in getting to the museum. The design of the scheme was produced in collaboration between museum technicians and the teaching staff of prisons and youth detention centres as part of a multidisciplinary effort.

The Travelling Museum consists of an exhibit cabinet on wheels and two teaching cases that are loaned to the centres and which contain genuine natural materials organised in the same way as they would be for a visit in person to the museum. Through the use of teaching guides, a series of activities are suggested that the teachers in the schools of the correction centres can adjust to their particular circumstances and/or dynamic.

The main objective of the experience is introduce users to the content of the Museu de Ciències Naturals de Barcelona, through suggesting activities that contribute to teamwork and expressiveness and encourage the development of a range of skills (conversation, dialogue, co-operation, etc.)

The specific objectives are:

- To introduce some aspects of the Museu de Ciències Naturals (Zoological collections): which tasks are undertaken, what is put on public display (collections) and how is it done, what are the scientific objectives that justify the existence of the Museum, what educational activities are engaged in, etc.
- To stimulate interest in science.
- To demonstrate the importance of biodiversity and the need to preserve it, encouraging respect for all living things and an interest in learning about them.
- To highlight the importance of all living organisms, however small or insignificant they might seem.
- To stimulate curiosity and the urge to know and learn.
- To promote collaborative and reflective learning, as well as developing communication skills that foster dialogue.
- To participate in a process of discovery as part of a group which offers enriching learning experiences for everybody involved.
- To value and respect the material.
- To enjoy and have a good time.

The institutions that are partnering the Museum for this project are: The Justice Department of the Generalitat of Catalonia, the General Sub-Directorate for Rehabilitation Programmes, Health and General Management of Juvenile Justice; and the Education Department of the Generalitat of Catalonia, Hospital schools.

The Travelling Museum experience began in the 2008-2009 academic year and has developed in response to continuous assessment of its results:

Academic year 2008-2009. 5 teaching workshops undertaken by the museum's education staff at a youth detention centre's school. Joint assessment by the teaching staff of the museum and the centre. Decision taken to change to self-learning material to be able to reach many more users.

Academic year 2009-2010. Introduction of the exhibit cabinet containing general zoological content from the museum. Introduction of loan periods of 45 days. *In situ* training of the centre's teachers on the educational possibilities of the cabinet. Joint assessment by the teaching staff of the museum and the centre. Decision taken to produce more tangible and manageable content with content to do with constructions made by animals.

Academic year 2011-2012. Extension of the loan of the cabinet to 5 youth centres in Catalonia. Design and production of two teaching cases focused on animal constructions (title: *Constructions, constructors*). Continued *in situ* training.

Academic year 2012-2013. Launch of the *Constructions, Constructors* teaching cases in all of the adult and youth centres. Loan period of 45 days for all three elements (cabinet and two cases)

Current status. The loan of the material to all of the adult and youth centres continues with total normality.

The number of participants since 2011 has been 3,686 students and 297 groups from among the schools and teaching classrooms of all of the prisons (11) and youth detention centres (5) of Catalonia.

### Assessment

For the purposes of continuous assessment, the centres fill in questionnaires to gather global and group opinion, including subjects such as the number of participants, the objectives aspired to, work content, materials used, etc. The collection and analysis of these questionnaires revealed the following main strengths and weaknesses

### Strengths:

- Reaches the entire prison population of Catalonia.
- Gives access to normally inaccessible material in order to develop activities based around the natural sciences.
- Provides teachers with autonomy.
- Exposes the museum to a sector of the population that otherwise would not be able to appreciate it.
- Opens up a range of possibilities and new experiences for those people who have used it.
- Encourages hitherto unused observation and manipulation skills.
- Puts forward many adaptable activities.
- The handling of natural material has an important motivational effect.
- It promotes respect for learning material and other cultures.

### Weaknesses:

- Requires a large amount of time and staff to replenish the material.
- A need has been identified for continuous assessment and teacher training by the museum (in the form of coaching), to guide them in its use.

### Future project

To take the Travelling Museum to the long-term sick in hospitals. It will start with children and young people and then continue to adults. The objective is that the materials will serve not only as an educational tool to support compulsory schooling, but also as a therapeutic factor contributing to the patient's sense of well-being.

Contact has begun with the hospital schools of Catalonia and the project is being developed in line with its particular requirements. The 2014-2015 academic year will see the beginning of pilot activities in the classroom.

### 2. Accessibility initiatives

The Museu Blau offers means of access and equipment that fulfils the general requirements of a variety of social groups. It is supported by collaboration from the Foundation University of Bages and the Foundation for Community Development.

The Museum offers **adapted guided visits** for people with visual and intellectual impairment which are scheduled whenever requested by these collectives. The Museum is currently working on introducing new projects, a leading one of which is the increase in guided tours for people with mental health disorders as well as Alzheimer sufferers. **Specific training for personnel** involved in customer service and education is also being undertaken.

#### For people with visual impairment,

Signposting of basic services

Tactile paving leading to the information desk

Tactile map.

Brochures with large typeface and in braille.

#### For people with hearing impairment,

Amplifying magnetic ring both at the ticket desks as well as the main hall. Directed at people carrying an audio-phone.

WebApp that complies with W3C accessibility standards to an AA level, meaning that it is compatible with the accessibility software of most common mobile devices.

Resources in the permanent Living Planet exhibition:

- For people with visual impairment. On the 17 interactive display tables of the exhibition, on

which more than 50 original objects and models that can be freely handled, there are diagrams in relief, large format text and braille in Catalan. The objective of these new resources, which can be supplemented by an audio-guide, is to ensure that the sightless community can visit the exhibition in an ever more independent way at the same time as facilitating understanding of the content to the general public thanks to the large text format texts and the informative diagrams.

- For people with hearing impairment, the exhibition has 27 audiovisual presentations and 42 interactive screens in three languages.
- For people with reduced mobility, the exhibition enjoys full wheelchair access both in terms of moving around as well as the height of the interactive tables and posters.

#### *The Science Nest*

Putting the Museum within reach of the little ones: a project for children from 0-6 years old.

#### Detailed analysis of a singular Accessibility Project: The Science Nest

The Museu Blau's Science Nest is part of the extensive **Born for science** project, the objective of which is to make all the content of the museum accessible to all children up to 6 years old, as part of the overall objective of providing access to people of all ages. It has started with the youngest visitors, whereby adopting the viewpoint of 0-6 year-olds of the activities of the museum leads on to incorporating other viewpoints with respect to accessibility, with particular reference to the issue of functional diversity.

The guiding principle of the project is to bring science closer to the people. It was started as an open-ended proposition that goes far beyond the capacity of the museum itself and puts emphasis on linking in the maximum number of people and organizations to achieve the same educational

purpose: to promote science from earliest childhood and, as a consequence, incorporate it into everyday life. This provides a response to the lack of activity possibilities designed especially for boys and girls in this age group that is generally the case in all museums.

Taking advantage of the opening of the new Museu Blau in 2011, a specific area was created within the museum: the Science Nest, a space exclusively for children from 0 to 6 years old, designed to provide them with quality experiences. It is a versatile space very visible from the main entrance of the museum, with two glass walls and using material specifically designed to meet the needs of its users (resistant material, made-to-measure, hygienic, stylish, comfortable, etc.) and, above all, featuring **natural materials** (skulls, hides, bones, seeds, shells, minerals, rocks, wood, etc.) prepared by the technicians of the various departments of the Museum. The Science Nest boasts its own declaration of rights: the right to touch everything, to get dirty, to think with your hands, to be respected, to do what you feel like, to spend as much time as you like over what you are doing, to pass away the time, to make mistakes, to be unpredictable and that adults should make an effort to be understanding and not interfere.

The Science Nest was developed and brought to fruition in collaboration with Montserrat Pedreira, director of graduate studies in Child Education at the Foundation University of Bages, Manel Briones, an architect with BDM (architects specialized in the design of spaces for children), and Francesco Tonucci, an Italian educationalist and promoter of children's views.

The idea of having a specific space is in no way intended to shut it off or separate it, but rather for it to be just another point of reference in the internal network of the museum that connects with the rest of the spaces in many different ways. This is why all of the educational ideas are integrated with the permanent Planet Life exhibition, making it possible for children to leave the nest to explore, investigate and enjoy the museum's riches.

The Science Nest encourages children to get involved, whether through family or school activities, in order to transmit to them the fascination that the human race has always had for understanding what it is that surrounds them, awakening their curiosity, helping them to make sense of the world's phenomena, providing them with natural material, relevant books, observation equipment, encouraging them to take a balanced view of reality and helping them to understand science by bringing it closer, accessible and relevant.

The specific objectives of both the family and individual schoolchildren's activities are:

- To stimulate interest in science.
- To stimulate curiosity, the desire to know, learn and investigate, respecting the pace and the interests of everybody else.
- To promote cooperative and reflective learning.
- To value and respect the material in the Science Nest.
- To underline the museum's own cultural richness.
- To take part in a process of discovery, be it as an individual or in a group.
- To be meticulous when putting forward ideas both from an educational as well as scientific point of view.
- To connect with the rest of the museum.
- To enjoy the space, the exhibits and the activities offered

The Science Nest project has continued to evolve since its inception using not only continuous assessment but also taking into account the opinion and requirements of schools.

2011. The Museu Blau opens and with it the Science Nest with a family activity for the weekend: Self-Discovery.

2012. The Science Nest consolidates itself through offering services to families during the weekends and school holidays. Two educational activities are started for nurseries and nursery schools for 3-6 year olds. Requests start to come in from schools and functional diversity groups for them to be able to do activities at the Science Nest, and collaborative projects are begun with those collectives in order to design specific activities to promote their inclusion.

2013. The Science Nest consolidates itself by offering a regular service to nursery schools and regular schools and creates a new school activity at the request of many teachers. A new programme of weekend cross-disciplinary activities for families is begun called NIUViu, which links science with dance, visual arts and music among other disciplines.

Academic year 2013-14. The activities are extended, the NIUViu programme is consolidated and advances are made on adapting activities for school and centres for people with functional diversities (in collaboration with ASPACE, AP-SOCECAT and the El Xop Occupational Therapy Centre).

Academic year 2014-15. Collaboration with schools begins on long term projects. Work will also be done on extending the 0-6 year-old viewpoint to other areas of the museum.

The Science Nest has continued consolidating itself as a service for schools and families and has generated a growing demand to the extent that it is now reaching the limits of its capacity. In 2013 a total of 2,481 pupils took part and in 2014 there have been 3,774 between January and June alone, which shows an increase of 52%. With respect to family activities, a total of 12,689 people took part during 2013 between children and accompanying adults.

## Assessment

Questionnaires are completed to assess the general opinion on both the weekend activity and the school activities and to pick out the strengths and weaknesses of the activities offered. Their subsequent analysis allows us to keep improving the ideas and the materials used.

### Strengths:

- Science-based activities are offered with the 0-6 year-old age group specifically in mind, an age range that is not often taken into account.
- It is a zone conceived as exclusively for children and with a specific set of rules.
- The way the project is set up allows each of the children to find their own way of connecting with what is on offer and to pursue their own interests, stimulating the desire to learn and making them aware of their own capacity to complete a project.
- The versatile character of the space.
- The flexibility and adaptability of the activities designed.
- The opportunity to work with normally inaccessible natural material with which to carry out the activities.
- The interest generated in a variety of social groups, especially those with functional diversity, attests to the quality of the material and user-friendly nature of the space.
- The space encourages creativity in that it doesn't dictate set activities with explanations in an adult format, but rather it promotes the freedom to come up with concepts that don't have a single correct or valid answer.

### Weaknesses:

- The need for continuous and more in-depth training for the educational team in the specialist 0-6 age range.
- The difficulty in replacing natural material that gets damaged (skulls, hides, bones, seeds, etc.)
- In some cases the teaching material has not worked and it has been necessary to rethink its design and adapt it to the requirements of the children.

### 3. Proximity initiatives

The opening of the Museu Blau represented the arrival of the first major public cultural facility in the district of Sant Martí. From the very first moment it was clear that specific initiatives would need to be engaged in to connect directly with the nearest residents, with the objective of them being able to make the facility their own and to use it not only as a museum, but also as a public space available for the local population to use in different ways.

Thus began the so-called *Proximity Project* which is being progressed through discussions with all of the interested parties such as neighbourhood associations, schools, NGOs, social agents, etc.

The Museum has a **Communication Plan** to present what is on offer to the surrounding district, bearing in mind the cultural, economic and social characteristics of each sector, with the objective of getting the local residents to "adopt" the Museum. A variety of campaigns has been designed such as the current "Spend the summer with us" and "If you don't come it's because you don't want to".

**Links and alliances with the nearest local associations, institutions and companies** have been established such as the Pere Closa Foundation, Can Felipa Arts Visuals, Barcelona Forum District and the neighbourhood Libraries in order for them

to use the Museum in a variety of ways (visits, lectures, presentations, language exchanges, civic ceremonies...).

There are activities specifically directed at local **vulnerable social groups**.

An integration project is being carried out with **schools in the Sant Martí district**

**Detailed analysis of a singular proximity project: Let's connect with...**

One of the most successful achievements has been with the project **Let's connect with...** undertaken with local schools in the district. The central focus is that the pupils get to know their neighbourhood by viewing it from a different perspective. The official bodies that also took part were the District Council, the Educational Resource Centre and the schools of the Sant Martí district.

It is directed at all of the schools in Sant Martí, Nursery, Primary and Secondary, both public and private. The district covers an area of 1,052 ha, has a population of 232,882 inhabitants, a non-university school population of 31,456 pupils (academic year 2011-2012) and a total of 68 educational centres. These characteristics make it one of the most diverse in the city in terms of widely divergent socioeconomic groupings, paving the way for interrelation and contact between pupils from a wide range of backgrounds.

The Museu Blau, with the desire to facilitate public access, offers free entrance to its large foyer area and thus access to services such as the media centre, the Science Nest (an area for children aged 0-6) and an exhibition space called **Science and more**. It is from the temporary exhibition space within this area that the educational project has been developed in conjunction with teachers from participating schools. A means of communication is selected (photography, storytelling...) that gives shape to the final product through which the pupils develop and reflect on how they view their neighbourhood. To bring all this to fruition, the work

is done with the help of experts in these media thus helping to train both the museum's educators and the schoolteachers and to assist in the preparation of the final project.

The specific objectives are:

- To bring the Museu de Ciències Naturals de Barcelona closer to Sant Martí's education centres as well as to establish joint working spaces between museum and school.
- To disseminate the temporary and permanent riches of the Museum (the Science exhibition spaces and more) as well as the other services offered such as documentation (Media Centre).
- To work on the documentation process and the work methodology required for creating a scene.
- To encourage imagination and creativity in the pupil through a variety of media such as photography, narration, illustration, etc.
- To offer an adequate framework in which to research and recreate a scene from the past or present of the Sant Martí district and the subsequent creation of a story based on either fact or fiction.
- To communicate the work achieved during the project, producing items such as an illustrated account of each work of fiction or a collection of photos that are displayed in the lobby of museum in an end-of-project exhibition attended by all the participating pupils.
- To apply the appropriate methodology, on an educational level, for documenting information, recreating spaces and characters from the past and present of the district, to work independently, show initiative, develop creativity and improve the pupil's capacity for expression by means of a successful experience.
- To establish collaborative links with Sant Martí's Centre for Educational Resources.



Academic year 2012-2013, beginning with the photographic exhibition *Catalonia through your eyes*, coproduced with TV3, the schools developed a project throughout the academic year about the district reflected through photos. These photos formed the basis for an exhibition in the museum itself called *Earthwatch: Sant Martí through your eyes*, shown from 7 June to 29 September 2013 in which 530 pupils took part.

Academic year 2013-2014, the exhibition that kick-started the project was *Monsieur Ardan, the great 19th century explorer*, an imaginary photographic account following the life of a fictitious character and the discoveries he made during his expeditions throughout the world. The pupils, based on this exhibition, developed a project involving exploring and documenting their neighbourhood as the starting point for creating a report in the form of a narrative using the pictorial story-writing technique which combines narration with illustrations. There were 6 groups taking part with a total of 160 pupils.

The experience has been absorbed into the district's schools to the point that each academic year will see a new specific project undertaken. In the medium term it is intended to widen the initiative into the schools of the Sants-Montjuïc district where the Botanical Gardens are located.

#### Assessment

The assessment was made based on a joint analysis of the process undertaken by the schoolteachers and the museum's education staff.

#### Strengths:

- Work across a number of disciplines allowing for a non-compartmentalized project.
- Deeper relationship achieved by the pupils with their own surroundings. Getting to know old and new spaces within the neighbourhood.

- Discovery of the museum by teachers, pupils and their families.
- Possibility of completing a project using different means of expression supported by experts.
- Possibility of seeing the pupils' work created over the course of the school year exhibited in a museum.
- Satisfaction of the teachers in being able to participate in a local neighbourhood project.
- Training of both the museum's education team and the schoolteachers in new expressive techniques.
- Encouragement of inter-school collaboration.

#### Weaknesses:

- Training that required extra work by the teachers that resulted in different degrees of commitment.
- Necessity for the museum to take a more direct role in the monitoring of the phase of the project that takes place in the school.
- Some difficulty for certain schools to insert the project into their overall planning.

#### CONCLUSIONS

Developing these lines of action has allowed for new projects to be created and to open the museum up to society in a much broader way. This diverse and changing society means it is important to keep abreast of all its daily fluctuations.

The different lines of action have led to more in-depth training for the people involved, encouraging the museum's team to open up to wider perspectives.

What the museum offers has expanded quantitatively but above all qualitatively for those social groups so often forgotten by museums or, at times, treated in a paternalistic way. This has taken users by surprise, but above all has generated interest and a sensation of complicity between them and the museum.

The programmes for proximity, equality and accessibility now form part of the functional structure of the Museum with stable financial and human resources.

A work methodology needs to be developed that facilitates evaluating projects and understanding their impact as well as discovering channels to encourage the public to participate in the life of the Museum.

In 2014 the *Children's' Council* of the Museu Blau was created with the aim of giving children a voice in the present and future of the Museum and make sure play a role in proximity projects. En el año 2014 se creó el *Consell d'Infants* del Museu Blau para dar voz a los niños en el presente y el futuro del museo y para que formen parte activa en los proyectos de proximidad.

Until a few years ago, a conventional classification of cultural centres was produced that distinguished between institutions with features of excellence and those of proximity. With the inclusivity project it has become clear that this dichotomy has been overcome. The Museu de Ciències Naturals de Barcelona aspires to be an institution for both excellence and for proximity with a fully consolidated social dimension, with the capacity to transform its surroundings, to become a place that is open to criticism and conflict as well as social and participative space.