

The scientific method as a learning model

Schools web and educational and investigation centres

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Barcelona Zoo is always open to imaginative proposals which have as the objective the diffusion of knowledge. The Zoo readily collaborates with other social-educational institutions in order to gain knowledge in differing pedagogical objectives including those involving community level, social or global development, not solely animal-centred topics.

So it came that Barcelona Zoo embarked on a special project with the Escuela Patronat Domènec and their pupils aged 5 to 6 years, in which they studied the chimpanzee group. The learning model which we developed targeted the scientific methodology which is characterized by direct confrontation, with no mediators, from the subject with the object to study. This learning model guarantees the development of creative and cooperative thought. It assures the development of all the aspects of the personality – the intellectual as well as the affective – and that of respectful individuals, committed to the environment and the people that belong to its social surrounding.

In short, in this project pupils studied the same subject. They observed and developed hypothesis. They hereby learned to concentrate on a specific subject for a longer period of time and develop an affinity with the subject



being studied. The pupils then came together to discuss what they had observed and concluded. The result was that the pupils had made totally different observations of the same reality and had also drawn totally different conclusions. They hereby learned that it is necessary to develop a system to determine what 'the truth' is and at the same time come to realize that there is no such thing as 'the truth'. The pupils learned to be critical thinkers – also of one's own observations and interpretations. They additionally learned that there is a necessity to consult with one another and that interaction leads to the development of knowledge. Not only did this project help to develop the pupils' knowledge and scientific skills, together with knowledge they gained appreciation.

How does it work?

A relationship is established between the pupils and the subject or reality that is meant to be acknowledged. It demands the development of a number of attitudes and capabilities. For instance, the capacity to concentrate for long periods of time on the individual or the fact – physic or social – that becomes the centre of interest at a certain point, to follow its evolution throughout time and to oppose it afterwards with classmates. Through such a confrontation the pupil comes to realize that the same fact can be understood in different ways by different people. These differing views of the same fact or observed reality – as well as the resulting interpretations – makes one realize that "the other one/the other thing" exists in a world which is governed by its own

rules and does not necessarily coincide with what each one has imagined. This is the turning point to necessity of knowledge and respect. And only then do we question “why?”. Asking “why” shows us, precisely, the conscience of what one knows.

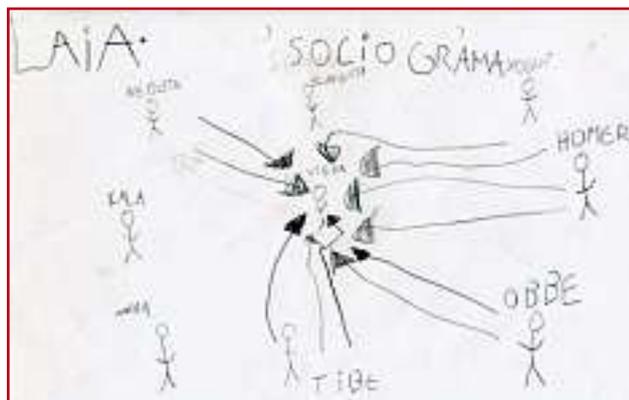
On the other hand, the capacity to question oneself about reality means to take a first step towards intellectual and affective autonomy. When facing the questions which have arisen through the observed reality or item to be studied, the subject is able to imagine many possible explanations and the autonomy level rises. The conscientiousness that the imagined hypotheses are but just a few among all possible ones becomes evident when pupils share their findings and ideas. Such collaboration helps to improve the abilities of the pupils to reason, value, review previous ideas and change them.

The knowledge which is incorporated results from the confrontation with the same – in a context where the person teaching plays a very important role – and not by the knowledge of an “authority”. The teacher helps his/her pupils to build and apprehend the world from the freedom of thought and from the respect of the other, as a condition of evolution itself.

A worldwide learning model?

We want to stimulate an atmosphere of exchange and confrontation of ideas, of expectations, of feelings and of interests, which is already a reality at the Patronat Domènec and which enables children to build knowledge as they are sharing it, and to expand their thinking to other physical and wider ambits.

We want our pupils to acquire knowledge while they interact with boys and girls from other parts of the world, touching themes or contents that can be of common interest at a certain moment, or not. Developments that, being parallel, will be shared if we use ICT as our best ally; ways of starting off from our differences and building bridges with languages – oral, written,



Project Goals

- To spread the learning model based on the scientific methodology in order to generate knowledge from observation and questions about reality that it necessarily raises.
- To encourage the development of knowledge arising from the clash of ideas, feelings, hypothesis, research and information designs, between peers of different parts of the world.
- To give rise to creative and cooperative thinking from the very first years of primary school.
- To develop skills and personal attitudes which promote a global code of ethics, which respects the environment and is committed to social reality.

audiovisual, artistic, musical, mathematics-, will make bonds with equal and common interests and expectations. A road that will need to overcome barriers – physical, cultural, of gender, of age or economic – that avoids that each boy and girl and each youngster turns into, within his/her equals, a true speaker in the process of getting to know the world and to giving it a reason.

This project is but a mere example of how it works between the Patronat Domènec and Barcelona Zoo. Our intentions are to create a network of schools and education and research centres (e.g. zoos, museums) which manages to generate common interests that materialize in joint projects to be developed during a school year in different parts of the world with different cultural backgrounds; a network that triggers exchange processes between students and also between teachers, which allow them to follow hand in hand the path to a kind of knowledge which fosters a global code of ethics, respectful with the environment and committed to the social reality. ♦

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