

## THE BIO-ENVIRONMENT IN PRIMARY EDUCATION

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The study of the connection between humanity and its surroundings is a recent phenomenon in history. Confronted with events which have happened very recently such as, increasing industrialisation and technology, we have become aware of the fact that the maintenance of the necessary balance for survival is becoming a main concern, although its analysis is complex and the application of safeguards is sometimes difficult.

Since its appearance on earth at a late stage, some three million years ago, humanity has made progress only by taking nature into its service, and not the other way around. Although for all living beings, consumption and excretion are vital functions, although respect for, and protection of, our surroundings are not "inborn" characteristics.

However, human beings are not merely biological beings. The development of our brain, our analytical and synthetical abilities, primitive as they were, enabled us to understand that nature should be exploited with care, so that it never failed us. With time, we domesticated it without enslaving it; lately, we have realised that using it does not mean misusing it.

Our awareness of being neither parasite nor beast of prey, will cause us to inquire into, and examine our surroundings, to observe them, as well as the effect we may have on them. If, today, living in the midst of our so-called developed societies as some of us do, such awareness exists, it does not mean that modern human beings, whoever they are, know how to behave as individuals mainly because of the infinite variability of our own biosphere.

It is clear that in every country all around the world, the words ecology - environment - pollution - nuisance are becoming trendy and have been greatly popularised. But it is not at all certain that those who use them know exactly what they mean. It is not surprising, therefore, to find out that some behaviour is aberrant and some interpretations are totally erroneous, when compared with realities at the present moment. This behaviour, these interpretations, are all the more complicated in that they are the result of essentially complex phenomena, which call for a wide range of variable knowledge both practical and technical. To manage the environment, well, implies:

- knowledge of its physical and biological workings, as well as the mechanisms which maintain its main balances
- evaluation of perturbation effects brought about by humanity
- knowledge of our connection with others and with our own patrimony
- mastery of simple school subjects, which are the main tools of understanding

Consequently, managing the environment involves knowledge which includes human qualities such as responsibility, initiative, analysis and synthesis, whatever the instruction level is, autonomy, civic sense and, in one word, study.

Our responsibility is all the greater because it is natural to foresee the "handing-down" of a world which we will endeavour to make healthier, as our heritage for future generations, on condition that they should make good use of it in the future and that they should pursue further the work undertaken today.

The currently established facts have to be developed immediately into several types of training, according to the grouping of the individuals. These include: decision makers; scientists and technicians; adults in general; teenagers and, most important of all tomorrow's citizens (children from 3 to 12 years of age).

The training of tomorrow's citizens is the topic of this paper, since it is fundamental and also more complicated than often assumed.

### **Tomorrow's Citizens**

In France, children from 3 to 12 attend primary school (nursery school and elementary school), where they are taught the basic elements of knowledge, such as reading, arithmetic, history, geography and natural science. However, it is now recognised that school-time should not be limited only to the content of human training, nor the method for creating this basis. It must also include ways of awakening the mind and

developing individual qualities, in an environment very different from what it was, since society is advancing much more quickly than it was thought capable of, a little while ago.

Psychologists and pedagogues have studied children for a long time. Very recently, improvements in the study of genetics and neuro-physiology have shown that the development of a child's brain is not what was previously assumed. Very early on, the child is able to assimilate a great deal of information. Consequently, school must provide, from the child's earliest years, less knowledge and more methods of developing thought and behaviour. Research in neuroscience has demonstrated that future human qualities, such as adaptability, curiosity, creativity, imagination and learning ability, begin to develop in childhood from the age of 2 to the age of 10-12 years.

At that age, the natural curiosity of children about the environment can help in the development of very favourable surroundings for learning in the bio-environmental field. It is, therefore, essential that primary school teachers not only teach but, above all, educate.

### **A Simple Educational System**

In June 1972, during the Stockholm Conference, the idea of a system of education directed towards the environment was launched. Following that, advice on how to educate was given during the Conference of Belgrade in 1975 and that of Tbilisi in 1977. Although the EU is very active on the subject, there was a delay until 1988 before a resolution of the Ministers of Education was taken, in the matter of objectives and principles. The start is slow when progress is exponential. It was time to move quickly and to look into the distant future. Educating young children is a first fundamental step which must not be neglected. A simple educational system must be based on four important principles:

- Protection of the environment is a problem that must not be presented either in the shape of a catastrophe or in the form of a romance. Every hazardous interpretation must be eradicated.
- This protection implies the children's knowledge of the threats, which hang heavily over our planet, as well as the moral values linked to them, such as responsibility and solidarity.
- The study of their surroundings and the links, between other beings and themselves, for their development, must not be limited to human surroundings because human beings' partners are other human beings in their inter-individual connections and in their social workings. It contains the notion of respect for others and for things.
- Environmental training must "impregnate" every subject. It must approach problems related to the children's own bodies; to educate on health issues, coupled with the environment (bodily environment, good health, life, drugs, alcohol) and their surroundings, definable as the space which allows them to live with others. Consequently, this education must be interdisciplinary.

Education cannot be separated from an approach which is more adapted to a society in which the methods of child socialisation are completely different from those of 50 years ago. It is clear that the primary level must have the crucial responsibility for teaching, as well as interpreting and making evident, these interconnections and their logical unity. Bearing this in mind, the French National Education has developed three concepts:

- the value of the environment, making clear from a practical point of view as well as a cultural one, the value of our environmental patrimony (natural surroundings, landscapes, expertise, architecture etc.), and its close links with human activity
- the notion of civilised behaviour toward the environment, making children and young people sensitive to the consequences of their actions (waste-water saving, open air, domestically safe activities and safe transportation of goods, passengers etc.)
- responsibilities and actions in harmony with the environment, making children sensitive to inequalities among our societies, and also with regard to the poorest countries

These methods of education cannot, because of their subjectivity, remain outside the area of personal experience. They must be made concrete by examining actual problems, on a local level, with, if possible, the partners, the organisations and the services normally in charge of their management.

### **The Direct Involvement of Children**

#### *Curricular Activities*

Since the beginning of the 1980's, a system of Discovery Classes has been implemented. One of the main aims of these classes is to explore the surroundings in which the children live. The aim is to encourage their knowledge of landscape, fauna, flora, water, soil and how to protect the environment effectively, making clear that humanity and the results of its activities can either transform or destroy nature under certain circumstances.

Some years later Transplanted Classes were born. This formula allows children from anywhere in the country to stay, from 2 to 21 days, outside their own school surroundings. In this way, they discover a new, either natural or cultural environment, from which they develop their

abilities to reason, to think about local choices, to formulate new ideas and even choices, and to ask themselves questions about the future of their planet. To achieve these results, a serious policy of teacher-training carried out by specialised trainers, and followed by periods of instruction, was started and completed by setting up formulas for partnerships with either organisations or associations outside school.

### *Extra-Curricular Activities*

A policy for the environment will have a chance to succeed, only if it actively involves people. In order to prepare for the future, and to hand down our earth to following generations, we must involve the children, encouraging them to participate, to act, to be involved with their earth. Consequently, a specific educational operation was set up, including groups of young children and teenagers and encouraging them all to form a specific project, based on established facts, on the analysis of a particular need, and to search for solutions for a problem which concerned them, so that they could behave as responsible "environmental citizens." This operation is called 1,000 Challenges for My Planet. Every project constitutes some sort of challenge. The children and teenagers have to create each one themselves.

Each challenge should also compulsorily involve a technical sponsor for the group of children, who will bring them support for the projected action. The sponsor can be either a public or a private firm, or an association.

This operation was launched throughout France in 1993. About 122,000 children and 3,800 technical sponsors gave positive answers, in a constructive way, and met in order to bring to a successful conclusion, 1,305 projects, involving all areas of France and even, in some cases, French schools in foreign countries (Indonesia, Mexico, Sweden, Guinea, Jordan, Lebanon, USA, Norway etc.). In addition, several projects were carried out in co-operation with foreign countries.

### **Conclusion**

Protection of the environment is essential and will result from examining all the rights in total and then developing the consequent duties. This is particularly important because some problems do not know frontiers and do not take into account different current political regimes.

It must be admitted that the right to a good environment is an individual one, difficult to negotiate in a "market of rights." Terms of basic communal rules as well as terms of personal behaviour must be considered. The question of rights, when studied more thoroughly, reaches the conclusion that each individual must make sure that the "rights of future generations" are totally taken into account. It is on these grounds that "primary education for bio-environment" seems fundamental to us. It is therefore reasonable to express the wish that each country of our planetary community should become aware of all these factors and, as a consequence, make the necessary efforts.

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