

## AN ENVIRONMENTAL APPROACH TO THE EDUCATIONAL PROCESS

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The new approach to environmental policy in the Republic of Serbia started in 1989, when the first Ministry of the Environment was founded. In 1990, the new State Constitution was proclaimed containing several articles which focused on obligations, roles and rights with regard to the environment.

We have built our system of environmental protection in the form of a pyramid. At the top is the State Constitution. The base consists of the international conventions and recommendations, and bilateral and multilateral agreements. The Republic of Serbia has accepted all the international regulations which affect the environment in the country. The main point in the pyramid is the Law on Environment, passed in Parliament in 1991. This is the system law and is called an umbrella law, because it lays the foundation for environmental protection in the country. It consists of the following:

- a definition of the roles of all subjects: State and local authorities, voluntary associations, education systems, systems of health protection, mass media, etc.
- paragraphs which regulate the protection of natural resources (nature, air, water, forests, soil, the control of waste, noise pollution, etc.)
- a system of control by inspectors. (For the first time environmental inspection has been established. The new approach in environmental legislation is the polluter pays principle, with very severe penalties.)
- a financial base for environmental protection. (Money is collected from several sources: a percentage from taxes on cigarettes, petrol, plastics, detergents, pesticides, coal, etc.; 1% from each investment for which an impact assessment study must be done, and "rent" for the exploitation of natural resources.)

The next level of our pyramid consists of special laws, that incorporate environmental policy principles. These laws include the regulation of national parks, financial law and the regulation of the use and protection of water, soil and forests, as well as the restriction of hunting and fishing. A very important part of the pyramid includes the group of standards, recommendations and directives. The background for the new system of environmental protection in the Republic of Serbia was the Strategy of Environmental Protection, accepted by the Serbian Parliament in April 1990. In this strategy, the following future activities with regard to the environment were stressed.

- prevention of an increase in future pollution
- sanitation or revitalisation of the most polluted areas
- intensive activities with an environmental approach in some important fields, such as energy, agriculture, industry, traffic, tourism, national economy, etc.
- improvement of activities in environmental protection via the health service, education, public relations, and science
- stimulation of the activities of non-governmental organisations, voluntary associations, pre-school and school institutions, sports associations, etc.

The main point in our strategy is Education for the Environment (EE) which plans to implement the new philosophy of life through its environmental aspects. In short, the new philosophy incorporates the wise environmental management of natural resources and their rational use, for the benefit of future generations (sustainable development). For this new philosophy of life, we need a new environmental educational approach. This means Education for the Environment for pre-school and school children, families, decision-makers, mass media professionals, etc.

What follows, is an attempt to present the new model for EE, as developed for education in kindergartens, as part of the general strategy of environmental policy. On the basis of personal experience and international experience, the Ministry of the Environment of the Republic of Serbia put forward, as one of its strategic orientations and priorities the preparation and realisation of the programmes to educate the population about the environment referred to as: Priority Activities for Environmental Protection in the Republic of Serbia.

In the Law on the Environment (October, 1991) one of the obligations set out in Article 9 was that public services in the fields of education, science, culture, and mass-media are bound to include EE in their programmes and to present this new philosophy of life. In addition, the ministry finances the Environmental Fund, supports the programmes and projects of EE and issues publications in order to stimulate environmental awareness. In 1991, the Ministry organised a multi-disciplinary expert team. An analysis of existing educational programmes

and textbooks in pre-schools and elementary schools showed that the present educational process did not satisfy the demands of the new philosophy of life. The Ministry of the Environment, together with the Ministry of Education, initiated the introduction of the environmental approach into the educational process, from pre-school to university level. This transformation in the educational process includes the environmental approach in as many school subjects as possible, using the appropriate methods of teaching as well as materials, for example mathematical problems about the conservation of energy and other environmental problems that can be calculated mathematically and caring for the environment through the gathering of secondary resources.

The expert team of the Ministry prepared an experimental project called Green Routes (based on Green Signs by Mirjana Skendijc and Biljana Gacanovic). The purpose of this project was to find out if the proposed EE model should be implemented in the education process in pre-school institutions in Serbia, as part of the system for the protection of the environment. This experimental project was carried out in a kindergarten catering to children 3-7 years old and is located in the centre of Belgrade, which is an urban environment. The results were positive. This kindergarten was proclaimed by the Ministry of Environment, as the first environmental education kindergarten in Serbia. The purpose was to check the proposed model and then implement it in other kindergartens in Serbia. The project itself is planned to last three years, but these are the results of the two-year study with the help of environmental play-materials for all age groups.

The project included teachers and parents. As the kindergarten is located in an urban environment, the children were exposed to wall paintings of mountains, rivers, food chains, photosynthesis or recycling. The playground was arranged so that the children, with their teachers, took care of the plants. The topics discussed had to be connected with environmental principles, the rational usage of water and energy, environmental protection, children and the environment, ecosystems, etc. After two years, the following results were obtained:

- Children in this age group (3-7 years) were extremely interested in the field of natural sciences and are capable of accepting environmental principles if presented properly, using appropriate methods.
- After interviewing and observing the children, we came to the conclusion that these children had acquired certain environmental habits and, in contact with other children outside the project, tried to implement their new knowledge. For example, they warned other children to turn off the water taps so that water would not be wasted and reminded others not to litter.
- Children from this experimental group preferred actions, campaigns and examples that improved their environmental knowledge, attitude, and behaviour.

The project showed that the teacher's approach is extremely important. The successful approach was to teach environmental principles through games, arts and crafts, music and speech development, at the appropriate mental and developmental level of the children.

- The children showed noticeable improvement in logical and critical thinking, especially in communication with other children. They also communicated better with adults who were constantly interviewing them, especially television reporters.
- The parents of these children were also interviewed and their answers showed that the parents were more than satisfied and were willing to participate in and improve the project. It was very interesting that parents learned a great deal about the environment from their children.
- When these children were tested before entering elementary school, they showed a higher level of environmental knowledge than the children who had not participated in the project.
- The experiment highlighted the fact that the education of the teachers is crucial. The Ministries concerned are going to prepare special seminars on EE, as well as handbooks.

In conclusion, in the global approach to the new philosophy of life and, in the management of a system of environmental protection, EE plays an important role. The environmental approach should be the basis of all educational processes. In addition, the education of teachers is vital, since they are precisely the ones who must pass on this environmental knowledge to the children.

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