

## THE FORMATION OF AN ECOLOGICAL ETHIC / ENVIRONMENTAL EDUCATION'S UTMOST OBJECTIVE

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**Abstract:** We live today in a world defined by the following parameters: change, speed, complexity, globalization. Defending and improving the environment for present and future generations have become people's primary objective, a task whose implementation will be coordinated and harmonized to achieve the fundamental objectives laid down already, peace and economic and social development worldwide. It involves the transmission of knowledge, its reflection into one's conscience, the formation of beliefs and, eventually, their externalization in positive attitudes towards the environment.

The implementation of the "new education" supposes elaboration and application of some special pedagogic and social strategies. They aim:

- "new education's" penetration in school programs in the form of recommendations or modules of independent study and running through modern systems of communication: television, radio, computer networks etc.;

- "new education's" involvement in educational programs designed as alternatives to various pedagogic formulas: complementary training modules, guides, methodological guidelines, fundamental papers centered on the great issues of the contemporary world;

- rethinking the systems of selecting and organizing information as part of a curriculum which either "introduces specific modules" as distinct optional disciplines in the educational plan, either introduces the specific contents of a "new education" in the sphere of several disciplines, through an "approach of infusion".

Ecological Education (environmental protection) is an essential component of the effort made in different countries in order to make education more efficient.

Education is meant to approach researchers and policy makers, with the purpose to be achieved. As long as students will not know the essence of the new world that surrounds them and will not be susceptible to quality, they will not pursue the maintenance of ecological balance and environmental health. Moreover, acquiring knowledge and understanding these issues do not necessarily guarantee a resolution. On the contrary, it must be obtained a transfer between understanding the phenomenon and the individual behavior. Education has a crucial role in this process.

**Key-words:** balanced environment, the "new education", ecological awareness, environmental behavior, conservation, biodiversity.

## THE EDUCATION'S CRISIS TOWARDS THE CONTEMPORARY WORLD'S ISSUES

We live today in a world defined by the following parameters: change, speed, complexity, globalization. „*The environmental pollution, the economic change the sub-development and poverty, the demographic explosion in some*

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*regions of the world, the immigration and the inter-culture, the decentralization represent challenges of the contemporary world” (I. Maciuc, 2006).*

It is often said that one of the characteristic elements of the contemporary society is represented by the change phenomenon. *“The industrialization has brought to human communities numerous advantages regarding the material life’s comfort, but also huge prejudices: the irrational consumption of the natural resources which are in danger to be depleted, the air, soil and water pollution, the deforestation, the excessive restriction of the green areas that are vital for human being (...) This means that, because of his negligence and ignorance, the man has become the author of an ecological disorder whose destructive effects haven’t been predicted” (E. Macovei, 2001).*

*“In order to face the incertitude, the new dimensions of the complexity, the insidious or brutal changes and the potential opportunities which affect our world as a whole and the human beings in their inner environment” (A. King, B. Schneider, 1993), education “has to help the formation of a new humanism, which should contain an essential ethical component and which should contribute to knowing and respecting the culture and the spiritual values of different civilizations, as an indispensable counterweight to globalization...” (J. Delors, 2000).*

The amelioration of the surrounding environment for the present and future generations has become an essential objective of humans, a task whose fulfillment will have to be coordinated and harmonized with the realization of the fundamental objectives, which have been already established, of peace and economic and social development worldwide. It supposes the transmission of knowledge, its reflection into one’s conscience, the formation of beliefs and, eventually their externalization in positive attitudes towards the environment.

In the context of the *“of the study’s continuous expansion, of the approach, of conceiving the education’s realization”*, one of the many *“many orientations, premises for a global reform of the education”* is *“defining the problem of the contemporary world in terms of education” (E. Joita, 2003).*

*“The capacity of destruction has now-days such a huge amplex that a comeback to a certain ethic is urgently required. The pollution of atmosphere, of seas’ water and of world’s oceans are global phenomena and, consequently, it is imposed an international cooperation regarding the nature’s protection” (V. Ilie, 2007).*

As a consequence, the actual coordinates of a daily life require the approach in schools, along with other elements of education and problems related to the education for the quality of the surrounding environment. In this way, it can be emphasized our major priority to be informed, to protect and preserve the life environment, the nature’s conservation becoming efficient and real only when this attitude is essential for our conceptions and behavior.

Consequently, the education for environment becomes one of the “keys” to solve the actual problems. Its thesis is clear and universally available:

- the education concerning the environment must not be considered as a new educational discipline, but as an original perspective of all the subjects matters;
- it must be extended throughout the entire life and it should suppose an active intervention include the society as a whole;
- the ecological education wishes to promote an ethic of a durable development.

The education for environment represents the process which serves to the acknowledgement of the environment's values and to the clarification of the concepts regarding the surrounding environment. Its purpose is to promote the formation of the attitudes which are necessary for the aware and responsible activity's development, which has the aim to improve the environment's qualities.

Protecting and conserving the environment become the major objectives of the ecological education which wishes to answer to the next question: "Do we have to regard the technological era as a fatal destiny or as a chance given to humanity? Do we have to look for a new apogee of the humankind or for a tragedy in which the humanity will perish?" (K. Jaspers, 1986).

The first initiatives to protect the environment have emerged from the necessity to save some species which were in danger to be declared extinct 200 years ago. In time, the reasons which imposed protecting the nature have diversified. Clear signs of the planet's illness firstly appeared in 1970: the ozone layer was getting thinner and thinner, the global warming, the acid rains, the air, water and soil pollution. People started to understand the necessity of adopting a responsible behavior towards the nature. This behavior is not only individual, but also collective: the protection of nature implies collaboration and mutual support locally, nationally and, especially, internationally speaking (A. King, B. Schneider, 1993).

Education wishes to contribute to the improvement of these problems through prevention actions. Thanks to the failure in finding solutions we are able to say that education finds itself in a crisis situation. The crisis consists in a difference between the educational results and the society's expectations. The specific and general solutions which were found ([www.educativ.ro](http://www.educativ.ro)) are the following:

- innovations in conceiving and developing educational processes;
- the introduction of new types of education in school programs;
- the reinforcement of the connections between the school actions and the extra-curricular ones;
- the initial and continual training of teachers;
- the collaboration between teachers, pupils, parents and local authorities;
- the organization of information changes between the European countries;
- rethinking of the educational process in order to successfully integrate youngsters in the professional and social life;

## **THEORETICAL ASPECTS CONCERNING THE ENVIRONMENT, THE ECOSYSTEMS AND THE BIODIVERSITY**

The ecology is a frequently used concept not only in specialty publications, but also in those of large circulation. The term, which was created by the German biologist Ernst Haeckel in 1866 from the Greek words “oikos” (house, habitation) and “logos” (science), can be translated as being the science of the organisms’ interrelationships with their surrounding environment (Partin Z., Rădulescu M. C., 1995).

The human and social dimensions of the field require a reference to the following concepts of the ecological domain: the ecosystem and the biodiversity.

The ecosystem - the concept of ecosystem was introduced by Tanslev in 1935 and it is currently defined as “*the totality of the beings which live in a certain homogenous environment as far as the topographic, climatic and biochemical aspects are concerned*” (Ionescu A., 1994, Partin Z., Rădulescu M. C., 1995).

The ecosystems can be classified in function of the human element’s presence or absence in: natural ecosystems and artificial ecosystems. Among the natural ecosystems, the most frequently are: the barren, the mountain, the forests, the steppes, the savannas, the deserts, the marine ecosystem.

The artificial ecosystems include a numerical agglomeration of people or suffer their influence. The most frequently artificial ecosystems are: the agricultural ecosystem, the urban ecosystem, the forest ecosystem and the aquatic ecosystems (Ionescu A., 1994).

Biodiversity – the diversity of the ecological and biological systems – this would be the most proper definition in order to cover the large meaning of the biodiversity term.

### **RETHINKING OF THE CURRICULUM BY IMPLEMENTING THE “NEW EDUCATION”**

*“In a world defined by mobility, flexibility and transience a world of cerebral and intensive industries and top technologies, a world in which the most important strategic resource is the information and knowledge, education has to properly answer”* (I. Maciuc, 2006).

The implementation of the “*new education*” supposes elaboration and application of some special pedagogic and social strategies. They aim:

- “*new education’s*” penetration in school programs in the form of recommendations or modules of independent study and running through modern systems of communication: television, radio, computer networks etc.;
- “*new education’s*” involvement in educational programs designed as alternatives to various pedagogic formulas: complementary training modules, guides, methodological guidelines, fundamental papers centered on the great issues of the contemporary world;

- rethinking the systems of selecting and organizing information as part of a curriculum which either “*introduces specific modules*” as distinct optional disciplines in the educational plan, either introduces the specific contents of a “*new education*” in the sphere of several disciplines, through an “*approach of infusion*”.

The contemporary world’s issues have imposed the creation of some new types of education: the education for participation and democracy; the education for peace; the ecological education; the education as far as the population is regarded; the nutritional education; the intercultural education; the education for leisure time; the education for communication and mass-media; the education for a new international economic order; the economic education and the modern domestic education (Călin, M., 1996).

*“We assist today to a great informational, demographic and aspirational explosion, which emphasize the problem of the contemporary world. The new educations wish to prepare an adequate and rational (adapted) behavior in order to attenuate the future’s shock”* (V. Ilie, 2007).

The contents, the finalities and the objectives of the new education propose a step through which education tries to respond to the contemporary world’s exigencies and to provoke a change in the educational act favoring the education based on innovative, social and adaptable teaching.

The “new educations” evolve in function of the processing realized at the level of the proposed objectives which “designate” each content structure and which can be designed as a module or as a study discipline strategically conceived in the disciplinary plan, especially in the interdisciplinary and trans-disciplinary plan.

For instance, the ecological education or the education which is relative towards the environment aim the formation and cultivation of the solving capacities of the problems released along with the application of the industrial and postindustrial technologies at a social scale, which have registered numerous negative effects as far as the nature and the human existence are concerned. Through the education which is relative towards the environment it is being pursuit:

- the awareness of the interdependence between the environment’s quality and the life’s quality;
- developing the interest and the responsibility to maintain a natural, balanced and favorable for life environment;
- the formation of favorable mentalities and positive and active attitudes;
- the adoption of an individual and healthy ecological social behavior;
- developing behaviors which are favorable for protecting and maintaining a natural environment ([www.didactic.ro](http://www.didactic.ro)).

### **THE FORMATION/AFFIRMATION OF THE ECOLOGICAL CONSCIENCE AND CONDUCT – A PRESENT TIME OBJECTIVE**

An important direction is represented by the formation of experts specialized in environmental issues. In this way, youngsters, teachers and volunteers will be trained in order to scientifically be able to acknowledge

ecological concepts, the natural and artificial ecosystems' working manner, man-environment interrelationships etc.

In schools, ecological education must cross the next stages:

- knowing and observing nature through descriptions, movie and cassettes views and, especially, through extra-school actions: journeys, trips, thematic expeditions, which enable pupils to have direct contact with the surrounding environment and to enjoy the beauties of a wild nature, of a clean natural environment;
- the ecological feeling's formation and development in pupils/students, an attachment towards nature, delight and relaxation towards the beauty offered by the surrounding environment;
- personal involvement. through free talks in classes, the teacher succeeds in sensitizing the pupils regarding each and other's implication in concrete actions, in order to be useful to the community;
- assuming the responsibility. An ecological behavior it is being built in time, enabling the pupils to realize the responsibilities implied by their relationships with the others, with the ambient environment, with the society;
- constituting the action strategies, at a group level.

Specifically speaking, the environmental education aims the following goals:

- becoming aware of the surrounding environment's issues; understanding the way people interact with the environment, the way they emerge and the way different issues can be solved;
- developing a positive attitude towards the environment by acquiring a set of values and careful and protective feelings as far as the environment is concerned, stimulating the motivation to take part in maintaining the environment's qualities;
- affirming the customs and the skills which are imperative for the investigation, for identifying the environment's issues;
- stimulating pupils/students' participation in well-organized actions and projects which will finally solve the environment's deficiencies.

It is of utmost importance that life, apart from school, to continue completing and consolidating the educational work in an authentic European behavior, as part of the ample process of man's formation.

The preparation of the European Union's future citizens has become a challenge and necessity predicted by a foreseeable future, which will demand them to live in a permanent state of adaptation in order to face the changes.

Pupil's formation supposes an ecological conscience and conduct which become an important requisite for any school and extra-school educational step.

Protecting the surrounding environment represents a major issue of humankind. The future of humanity is questionable, unless energetic measures to protect the planet will not be adopted. On the one hand, man has understood that he represents a part of the nature, that terra and its resources are limited, that this planet is

functioning as a system and that the derangements produced in one place can have repercussions for a whole circuit, especially for humans.

On the other hand, humankind cannot give up its rapid rhythms of economic development. The school, through its destination and role, ensures the adequate context for pupils to develop a complex formation, as far as two aspects are regarded: an instructive and an educational one.

An important requisite for any didactic step consists in training the pupils with an adequate ecological conscience and conduct, present time and important purpose for life's quality. *"The presence of conscience and aims (which brings the teleological principle in pedagogy) makes possible the control of educational influences and, especially of those implied in the instructive situations, as far as the sense and intensity are concerned"* (I. Viorel, 2002).

Defending the surrounding environment becomes an exercise of social practice, school being the institution which has to make this exercise with the entire school population who "tomorrow" will have great and concrete responsibilities while rationally managing the natural and social environment's conditions. It has to determine not only the appreciation feelings towards the beauties of nature, but also the beliefs and customs of defense, conservation and development of the surrounding environment – civilized and healthy life condition.

As a final resort, school has to awake the spirit of independence, the formation of ecological self-training and self-education capacity in pupils, cause teachers' ignorance to find this thing necessary brings injuries to the educational work, their negligence being one of the major causes for this activity's low efficiencies.

Concepts that refer to the surrounding environment can be acquired even from an early age and at the same time with the concepts related to the child's inner places and the latter abstract concepts. It is very important to find the proper opportunities to go out in nature, to watch shows and documentaries regarding the surrounding environment or the management of the green spaces. The capacity of observation and formulating some problematic questions regarding aspects which concern the environment's pollution and degradation are imperative to be developed in pupils.

## **THE RESULTS OF AN OPINION SURVEY – QUESTIONNAIRE**

The modern didactic technology motivates the study of the environment and ecosystem in the ecological education's field, starting from three fundamental elements: air, earth and water. In this context, the specialty literature emphasizes the idea of education through outdoor tourism, as a perspective of the action centered on the biological diversity and its effects on environment by using the collective and individual energy (Nistoreanu P., 2003, Pilbath A. G. 2003).

A learning process which is being independently realized from the physics geography, without an information change based on a direct contact with the

ambient environment, cannot lead to the formation of an ecological ethic among students.

In order to accomplish this objective it is necessary to know students' opinions about the different problems which are included in the area of the educational environment. In this way, we have realized an opinion survey – questionnaire among the students from the Faculties of Geography, Biology and Physics, as part of the University of Craiova.

The results of this opinion survey – questionnaire are synthesized in the next table:

<b>Nr. crt.</b>	<b>Question</b>	<b>Options of responses</b>	<b>Percentage value</b>
<b>1</b>	<i>Do you enjoy spending your leisure time in nature?</i>	a. Yes	60%
		b. No	24%
		c. I don't know	16%
<b>2</b>	<i>Do you consider that the practice of different forms of (ecological) tourism could contribute to the formation of some positive attitudes towards the environment?</i>	a. Yes	54%
		b. No	26%
		c. I don't know	20%
<b>3</b>	<i>Which would be the main reason for you involving in ecological activities?</i>	a. observing and protecting the nature	36%
		b. relaxing in a natural medium	12%
		c. maintaining a healthy natural environment	22%
		d. the desire to explore the unknown	18%
		e. other reasons	12%
<b>4</b>	<i>How would you prefer to be informed about the ecological activities?</i>	a. from the explanations given by the teachers trained in this field	34%
		b. by consulting a specialty program	16%
		c. from the discussions	26%

<b>Nr. crt.</b>	<b>Question</b>	<b>Options of responses</b>	<b>Percentage value</b>
		with colleagues and friends	
		d. from mass-media	24%
<b>5</b>	<b><i>Would you choose to attend a course in ecological education?</i></b>	a. Yes	54%
		b. No	20%
		c. I don't know	26%
<b>6</b>	<b><i>Which is the major expectation that should motivate your attendance in an ecological education course?</i></b>	a. knowing the way different plant and animal species are being looked after	26%
		b. the formation of an ecological conscience	18%
		c. developing the feeling of love for nature	10%
		d. the formation of an ecological knowledge, attitudes and aptitudes	46%%
<b>7</b>	<b><i>What didactic methods that can be applied to the ecological education could you nominate?</i></b>	a. the method of observation	20%
		b. the debate	11%
		c. the lecture	12%
		d. the experiment	18%
		e. the demonstration	16%
		f. the projects' method	9%
		g. the problem solving	12%
		h. other methods	2%
<b>8</b>	<b><i>What didactic materials do you believe to be susceptible from being used in the ecological education?</i></b>	a. materials from nature	28%
		b. illustrated images	16%

Nr. crt.	Question	Options of responses	Percentage value
		c. pictures of different geographic environments	16%
		d. video recordings	25%
		e. other didactic materials	15%
9	<i>Which are the types of extra-school activities you consider to be useful in the ecological education?</i>	a. journeys	28%
		b. trips	34%
		c. thematic expeditions	25%
		d. ecological tourism	2%
		e. others	11%

### CONCLUSIONS, PROPOSALS AND SUGGESTIONS

The diagnosis study's results have led to the next conclusions:

- students haven't developed enough their knowledge and the attitudes which are specific to the area of ecological education;
- it is obvious students' desire to be offered opportunities as far as the tourist and ecological activities' organization and leadership are concerned;
- it must be emphasized the formation of the capacity to build a project regarding the environment's protection, as part of the instructive and educational process;
- it is necessary to introduce and clarify new concepts, which have emerged as a result of the development of the ecology's theoretical basis.

As a synthesis, the ecological education can be realized through any type of activity: school and extra-school activities, scientific activity, literary, artistic, plastic and sports activity etc.

The formal education doesn't suppose only information assimilation, but also the formation of some attitudes, customs, skills, motivations and affective states.

Among the modalities to realize the ecological education we can mention the followings: didactic activities (trips and walks) which enable pupils/students to be guided and to use the direct observation method in order to accomplish a true "picture" of the places they visit; debates as part of the symposiums; conferences; students' research practice; laboratory papers; collecting some animal and plant pictures from different geographical environments or building these environments

in miniature; lecturing and interpreting some texts including curiosities from the plants and animals' world; realization of some experiments which aim the demonstration of the water, soil and air's role in taking care of plants, in maintaining life on earth.

The individual analysis of each behavior, by emphasizing positive and negative behavior elements experienced in concrete situations, ensures an immediate and clear assimilation, by synthesizing them in behavior rules to protect the nature in public places.

By using the tests and illustrated images which complete the behavior findings and observations experienced in concrete situations, it can be enabled the assimilation of many behavior rules which represent basis elements when it comes about to form a European education in future generations.

Activities like ecological tourism, drawings, pictures taken in nature and thematic literary work exhibitions are being organized in order to successfully accomplish the environmental education's objectives even from the early age of the pre-school children. Moreover, realizing some collections with materials depicted from nature, video taping and recording some short length films in different ecosystems, elaborating and editing some specialty magazines, of ecological information, will coordinate pupils/students' actions and will adequately guide their information process.

#### **SUGGESTIONS THAT APPEAL TO TEACHERS:**

1. To organize some outdoor classes – these are much more interesting and fun. At the same time, they are an important motivation factor; they enable the pupil/student to directly meet the elements he learns about.

2. To adapt the classes to each and other's personal teaching style.

3. To make use of the case studies.

4. To debate regarding the environment – debates on different environmental topics, making a clear distinction between opinions and concrete situations. Teachers should encourage pupils/students to develop debates or to take their time in order to properly answer in a certain situation. Ask them the reason why they make their decisions; what are they thinking about when they responsibly act? Do they require any further information before making a decision? Ask them whether the group debates helped them to reconsider their thoughts or whether after hearing other persons' opinions they eventually changed their opinions and attitudes, too.

5. To use schemes and plans which have to remind pupils/students that we always have to also take into consideration the surrounding environment and to ensure that the changes which eventually can interfere will not seriously damage nature.

6. To make appeal to the problematic situations. This kind of situations aim the understanding of some effects the man provokes in the natural environment.

7. To stimulate pupils/students to get involved in ecological projects in order to better understand our planets' environmental issues.

## REFERENCES:

- CĂLIN, M.** (1996) - *Teoria educației. Fundamentarea epistemică și metodologică a acțiunii educative*, Editura All, București.
- GOLEA, C.** (2003) - *Riscul ecologic – evaluare și limitare*, Orizonturi geografice, nr. 1, Universitaria, Craiova.
- GRIGORAȘ, C., BOENGIU, S., GRIGORA, E.N.** (2004) - *Noțiuni de bază în știința solului*, Universitaria, Craiova.
- ILIE, V.** (2007) - *Pedagogie. Perspective teoretice și applicative*. Editura Universitaria, Craiova.
- IONEL, V.** (2002) - *Pedagogia situațiilor educative*. Editura Polirom, Iași.
- IONESCU, A.** (1994) - *Ecologie și protecția ecosistemelor*, Editura didactică, Constanta.
- JASPERS, K.** (1986) - *Condiții și posibilități ale unui nou umanism*, în “Texte filosofice”, Editura Politică, București.
- JOIȚA, ELENA**, (coord.), (2003) - *Pedagogie – Educație și curriculum*. Editura Universitaria, Craiova
- KING, A., SCHNEIDER, B.**, (1993) - *Prima revoluție globală. O strategie pentru supraviețuirea lumii*, Editura Tehnică, București.
- MACAVEI, E.**, (2001) - *Pedagogie. Teoria educației*. vol I, Edit. Aramis, București.
- MACIUC, I.** (2006) - *Pedagogie. Repere introductive*. Editura Sitech, Craiova.  
\*\*\*<http://www.articole.famouswhy.ro/>  
\*\*\*<http://www.didactic.ro/>  
\*\*\*<http://www.educativ.ro/>
- MOMANU, M.**, (2002) - *Introducere în teoria educației*, Ed. Polirom, Iași.
- NICOLA, I.**, (1994) - *Pedagogie*, EDP, București.
- NISTOREANU, P.**, (2003) - *Ecoturism și turism rural*. – ediția a II a, ASE, București.
- PARTIN, Z., RĂDULESCU, M.C.** (1995) - *Dicționar ecologic*. Editura Garamond, București.
- PILBATH, A.G.**, (2003) - *Ghid ecoturistic*, Editura Blueprint International srl, București.
- \* \* \* - Sustainable Development. Critical Issue, OECD Report, 2001, [www.oecd.org](http://www.oecd.org)
- \* \* \* Leonardo Da Vinci - European Curriculum for Methodological Training in field of EE