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**METHODOLOGICAL ASPECTS OF ECOLOGICAL EDUCATION
INTEGRATION IN THE ROMANIAN EDUCATION SYSTEM**

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Abstract

In the Romanian education system there are recognized 4 pedagogical steps of the *ecological education* integration (component of the new education), which are already institutionalized: a. The infusion step, which refers to the classical disciplines infusion with educational messages incorporating *-ecological education* specific informational contents. b. The modular step, which refers to the creation of specific educational modules, and of special chapters respectively, in the framework of traditional disciplines (e.g. modules with an interdisciplinary character: etc. c. The disciplinary step, e.g. *the ecological education* appears as an educational discipline, integrated in the educational plan, projected in the educational system, with institutionalized pedagogical objectives at the educational program level. d. The transdisciplinary step, which engages *the ecological education* from the new education category at the level of scientific synthesis proposed on a quarterly or annually basis by teams of professors, e.g. the global and special problems of the ecological education are addressed by a team of professors of biology, chemistry, etc. in the framework of synthesis lessons, seminars, thematic conferences, debates, didactic visits and trips, school competitions, etc. The paper presents the conclusions of a questionnaire administered to professors regarding the place and role of ecological education in the Romanian education system.

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1. Introduction

The numerous implications of *ecological education* with the dynamics of the contemporary society face educators with three fundamental problems:

- the place and role of *ecological education* alongside the modernisation of the education content;
- the attitude and responsibility regarding the environmental protection;
- developing of an ecological culture, of an ecological consciousness.

Teachers should be concerned about the imperative requirement of updating knowledge, skills and teaching techniques in the field of *environmental education*. Their professional activity should be structured in such a way as to provide them with the opportunity to increase efficiency in the profession of educator, as well as to benefit from the experience of periods of activity from different spheres of cultural, social and economic life. Such opportunities are: ecology circles organized by various ecological foundations, summer camps, study leave, etc (Marinescu, 2013). Such formulations, adapted to requirements, should be extended.

In order to achieve effective *ecological education*, team work is extremely effective at all levels of schooling, given the aim of improving the quality of *ecological education* offered to students and further adapting the teaching-learning process to depending on the specifics of classes or groups of pupils. As a way of achieving *ecological education*, we mention: instructive-educational activities in the kindergarten, lessons, courses and seminars, laboratory works, student research practice, excursions, symposium debates, round tables, international meetings, conferences, seminars, ecological education projects etc.

Organic activities aim to highlight the fact that teachers educate not only pupils, but also parents with the help of children, considering that a child, once he has learned a certain behavior at school, will also transfer this behavior home.

As practical ways of achieving *new education* (action possibilities) we mention (Marinescu, 2018):

- introducing new disciplines centered on a particular type of education; the difficulty is to load curricula;
- creation of specific educational modules and special chapters within the traditional disciplines (e.g. Interdisciplinary modules: *Flora and fauna of Romania; Medicinal plants in our area*);
- infusing classical disciplines with educational messages embodying informational content specific to "new education".

The main purpose of *environmental education* is the formation of ecological consciousness and conduct, which begins in the family, continues in school, in the university, and in the forms of continuous, permanent training. The enrichment of ecological culture should become a preoccupation of major importance for modern man. *Ecological education* proposes the ideal: the formation of "man with ecological consciousness" and the restoration of the ecological balance of the planet. Ensuring sustainable development of society should also be based on an appropriate environmental awareness. The involvement of the population in solving the various problems related to the field of nature protection is a vital necessity and a priority condition.

The attitude towards nature is a matter of culture and education, of civilisation and a civic duty, and the protection of nature is a duty of each inhabitant of the World. Preserving a healthy living environment is in fact the major duty and task of each member of society. „A healthy mind, in a healthy body, in a

healthy world, with a healthy environment” are the words of Comşa et al. (2011). We look at it as a challenge which encourages us to perform reflection and self-reflection.

2. Problem Statement

One of the problems of the pre-university education system is given by the question: Who can teach ecological education in kindergartens, schools or high-schools? Certainly, the biology and geography professors who are specialists in this field, as well as environmentalists (graduates of the Faculty of Environmental Protection). At present, other teachers (physical, chemistry, mathematics, mother tongue, religion, drawing, sports, etc.), as well as members of environmental NGOs, foundations or associations for ecological actions who wish to participate and supports the promotion of *ecological education*. We are talking about modernizing the teaching - learning of ecological education through the application of interdisciplinarity / transdisciplinary.

This process requires the knowledge and acquisition of a considerable amount of environmental information, the understanding of the connections between the environment, the natural environment and the environment (positive or negative) of the anthropogenic factor, the realization of viable programs in support of ecological education. The scheme below shows the relationship between school subjects and ecological education, as well as the involvement of the teacher in the realization of ecological education in the development of practical ecological activities in the local/national community

(Societatea Carpatină Ardeleană Satu Mare, 2010).

3. Research Questions

The research question is: what is the relationship between the ecological education and the school disciplines? In a previous study made by the author, the statistic situation is as follows: *ecological education* content is taught in the following disciplines: Biology (27%) and Geography (25%), followed by the Homeroom class (12%) and Health Literacy classes (8%). 8% is also taken by modern languages/mother tongue (Romanian language/Hungarian language in the case of some schools). 5% by Physics, Chemistry, Mathematics. The other answers fall within the 15% and refers to the diverse extracurricular activities (Marinescu & Botea, 2017).

4. Purpose of the Study

The main objective is to assess the situation existing at the level of educational reality concerning the place and role of ecological education in the Romanian education system. We consider that such an endeavour is absolutely necessary, as the results obtained in this way represent an essential support for the organisation and implementation of future researches. The purpose is to:

- assess the making of a radiography regarding the attitude and responsibility towards the environment
- gather opinions on attitude and responsibility towards the environment
- collect the teacher’s proposals and suggestions for organising and implementing ecological education.

5. Research Methods

a. *The survey method*, which will contribute to data and information collection so that the issue is understood as thoroughly as possible. Being an interactive method, the information exchange with the subjects assumes collecting data on: knowledge, actions, educational needs, behaviour, desires, aspirations etc. The specific instrument used is *the questionnaire*. A presurvey was conducted beforehand.

The questionnaires were applied in four stages and the number of items is 35. The items are grouped based on the aspects below:

- attitude towards environment protection;
- responsibility towards environment protection;
- ecological actions: examples;
- place and role of ecological education.

At each stage the administered questionnaires included 5 to 15 items, the time allowed was one hour. The reason why these items predominate is to obtain open answers and offer the freedom of expression in the process of studying aspects of the attitude and responsibility towards the environmental protection.

b. *The interview method*, which is also an interactive method, but a qualitative one, and it will complete some data and information on the subjects of the research. Both *group* and *focus group interviews* will be applied.

The sample consisted of teachers from Bihor county – Romania, both from urban and rural areas. The number of teachers who filled in the questionnaire was 150 (80 from urban areas and 70 from rural areas). The data were collected between 02 January-29 June 2018.

6. Findings

The processing of the information collected in the first and second phase, which refers to the attitude towards the environment protection.

At the first item (“In your opinion, who should deal primarily with ecological education?”), the situation is statistically the following: each inhabitant of the local community (38%), the Romanian Government (8%), the Ministry of Environment (22%), the Ministry of National Education (11%) and County School Inspectorates (15%), municipalities (5%), others (1%). The category "Other" refers to the media (radio, TV, the press), civil organizations, etc. The highest percentage is for each inhabitant of the community (38%), approximately equal to the three institutions taken jointly by the Romanian Government, the Ministry of Environment, the Ministry of National Education. Appraisal is the opinion of teachers that highlights the involvement of every local community in the realization of ecological education, starting from the family and continuing in school and lifetime.

The second item (“To what extent do you consciously protect the environment in everyday life?”), the result of the respondents is: not at all 1%; rarely: 10%; I strive: 74%; totally: 15%.

The third item (“What environmental actions did you have in the past two years?”) refers to the ecological actions carried out in the last two years, which are: volunteering actions on environmental clean-up, planting of trees, shrubs, fruit trees and ornamental herbs, care of green areas in the school yard, care of plants on school lots, the construction of shelters for the birds in the parks, the selection of domestic

waste, the conducting of ecological education contests: "Attitude towards Nature-Mother", "The care of animals from the Zoo" ("Let's save the chicken from Newborn lion from the Zoo") etc.

The fourth item ("Which of the following statements are valid in your case regarding the attitude towards environmental protection?"), gave the following answers:

- I am interested in environmental protection, I try to live and behave with responsibility towards the environment - 70%;

- I am interested in environmental protection, I speak regularly about this with students, knowledge and family - 15%;

- I am interested in environmental protection, but do not do anything special about it - 10%;

- I am interested in environmental protection, I am a member of an environmental organization - 1%;

- I am not particularly interested in the protection of the environment and nature - 2%;

- Other - 2%.

The "Other" category refers to various opinions on dissatisfaction with decision-makers regarding the management of negative factors that pollute the atmosphere, soil, water. It also refers to noise pollution and even radioactive pollution. Also, the massive cuts of forests and the disruption of the ecosystem are also mentioned.

The fifth item of the questionnaire ("Present some organic education actions under the Otherwise School Program"), shows that most of them carry out interdisciplinary activities of ecological education: thematic excursions, thematic visits to Environmental Protection Agencies or Ecotop-Oradea Foundation, meetings with members of this Foundations or journalists-ecologists. Also, Earth Day is celebrated through hygienic activities, thematic contests ("Planting a tree", "Letting ornamental flowers in the school park", "Let's admire Magnolia in the University Park", etc.). We also appreciate the ecological activities where thematic didactic games, role games, etc. were made.

No percentage representation has been made since the range of activities is very wide.

7. Conclusion

The wide palette of responses highlights that ecological education is a continuous process, where activities are selected, topical, and not very attractive. Ecological education is the foundation of human civilization and progress. Today's children, the generation of tomorrow, have the duty to keep, correct, and make amendments to what have destroyed previous generations. Increasing interest in local community issues (preservation and care of green areas, planting of trees and shrubs, sanitation, building nests for birds, etc.) (Marinescu, 2013) and problems outside communities (protection of nature reserves, concerns about raising funds for national actions etc.) are the basic preoccupations of teachers and students about the formation of an ecological awareness, of an ecological culture. Continuous improvement of teachers' teaching through the modernization of teaching - learning - evaluation, through the application of interdisciplinarity / transdisciplinary in the realization of ecological education is a major one. Attitude and responsibility towards the environment are also gained through the realization of activities in the middle of nature: taking care of it and protecting it, assuming our maximum responsibility towards the generations to come.

The transdisciplinary approach is probably the most interesting, the most promising, but very difficult to implement, that answers the themes included in the content of the new education and reflects the ideological and psychosocial tension of contemporary world issues: defending the natural environment; use of free time; relations between generations; the relationship between national and international in everyday life, etc.

For the formation of a general culture and a responsible attitude towards the environment it is recommended to involve the family, school and civil society in actions aimed at analyzing and understanding the environmental problems and their effects, organizing debates on environmental issues, involvement in environmental protection campaigns, etc (Blândul, 2016).

In Romania, the non-governmental sector has evolved considerably over the past 26 years, reaching a degree of maturity to ensure that the proposed objectives are met. We can appreciate that non-governmental organizations play an important role in the development of both society and individual individuals. Therefore, we believe that, beyond the limits of any initiative, NGOs must be supported so that the community and its members can progress towards a better future for today's children, tomorrow's adults. In conclusion, we believe that the most important change comes from the bottom up and that the most effective way of solving the problems of the community is the active, responsible and every possible involvement of each person, namely participation in the associative life of the society in which lives.

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