

## **DETERMINING THE NEEDS OF EDUCATION AND ENVIRONMENTAL PROTECTION**

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### **Abstract**

The frequent occurrence of natural disasters with devastating consequences, pollution of all environmental media, outdated industry, uncontrolled traffic, military actions, the use of depleted uranium and other devastating actions show the need for education and environmental protection. The educational process is the basic environment in which this needs to be realized. The paper aims to analyze the role of the subject programs that reach content through education and training for the disciplines related to the environment. It is particularly pronounced comprehensiveness of those syllabuses of primary compulsory education and the results of graduated students of higher education. Research and collection of the required materials are done through the proper methodology that includes conducting a survey of a student population.

**Key words:** education, upbringing, environment, environmental protection.

### **Introduction**

Invasive globalization, modern technological progress, military confrontations, unsustainable behavior towards nature cause rehabilitation of the environment from the effects of these processes to be hard to achieve. An even greater challenge is shaping the awareness of the meaning and environmental protection. That is, the incorporation of this consciousness and the implementation of the new technological, economic, political and ethical dimension of living and working conditions in a safe and healthy environment. The basic cell that should be the initial impulse for creating environmentally conscious society is education. In this educational process, first needs to seriously review the basics of scientific assumptions and adopted principles that underpin actual society, which inevitably degrades the environment. A sustainable way of functioning of humans and nature is the central paradigm that should be "forced" to be in function of the change of anthropocentric consciousness and ethics in humans.

Despite the fact that we live in an era of information technology, when all necessary information we can get from the computer and the internet, however in developing environmental awareness and culture of modern man, important role plays the system of education and upbringing. A wide range of environmental education stems from the natural and social sciences. An educational process that is aimed at protecting and improving the environment is conscious and planned development and perception of environmental knowledge throughout life.

Thus, awareness of the primary importance to the environment is developed, its characteristics, and the relationship between man and environment. Based on the developed consciousness, every human being will tend to the preservation and improvement of the environment. The basic premise of an educational-upbringing process should be offering verifiable knowledge of basic environmental issues in contemporary society. Thus, a critical awareness and thinking to rampant environmental degradation and sustainable use of natural resources are developed.

Environmental education should be correlated with environmental requirements during the life educational process or the educational process not only to cover the information about environmental events. You'll agree that environmental awareness is not consisted only of knowledge, but also of other elements such as emotional because knowledge without practical activity is not of big importance.

The creation of environmental awareness begins at the early age of man and undoubtedly stresses the importance and role of educational institutions at all levels. If this process is continuous, then up-coming generations and in full working and mental activity they will be "armed" with adequate knowledge and be able to respond to all challenges related to environmental protection. This paper contributes to shaping the appropriate educational strategies and critical thinking on the need for appropriate programs with environmental themes in educational upbringing.

### **Factors affecting environmental education and upbringing**

Starting from the constitutional principle that everyone has the right to a healthy environment and that everyone is obliged to promote and protect the environment and nature<sup>1</sup>, we assume that the indicators should be implemented through a well-designed educational process in which ecological matters will have adequate representation. This means that the state provides conditions for realization the right to a healthy environment. But the question for discussion is how citizens are brought up and educated by the educational system what they should think about what value system to construct in terms of the environment.

To be able to talk about achieving a degree of environmental consciousness that will respond to the request for the preservation of the healthy and quality environment, it is important to analyze the individual perception of certain factors in achieving previously accented purpose. The factors of ecological education can be classified as external factors or factors of external environment and internal factors or factors of personality. Furthermore, the factors of personality can be divided into two groups, i.e. motivational factors such as how the ecological orientation is adopted as a value or how much the individuals are satisfied with the state of the environment. The second category is factors which might come under the term competencies, i.e. what individuals know what are they informed about and what is their previous experience.

Particularly interesting factors in the process of environmental education for the formation of environmental awareness and culture of individuals is the family, kindergartens, schools, faculties, enterprises, social organizations, etc. The family is the initial step in the education of young children. Basically the family influence positively in the context of the development of ecological values and awareness among their members. The family is the closest

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<sup>1</sup> Constitution of the Republic of Macedonia <http://www.slvesnik.com.mk/content/Ustav%20na%20RM%20-%20makedonski%20-%20FINALEN%202011.pdf> (accessed on 21.10.2016).

social group that exercise common knowledge about the existence and other important needs of people. Main tool and method of acting of the family is the personal example, where children learn spontaneously. For example, maintaining a clean environment, dispose waste in right places are extremely good personal examples that contribute to the environmental education of the youngest members of the family.

Groups of young people who are generational close, also, are an important factor of social awareness among young people. Having identical views on the assessment of social position and status of their generation, give us the right to suggest that the perception of values among young people, their needs and ways of looking at problems with the environment, there is a possibility of finding ways of their engaging in protection and improvement of the environment.

Environmental education requires different sources of knowledge. Thus we can highlight some of them. First, the immediate reality that implied the actual environment in which the student exists. That is the family home, kindergarten, school, faculty, urban environment and so on. Secondly, school textbooks, novels, fiction books and so on. Third, the teaching resources used in education. These include a variety of models, products, models, images, drawings, tables, graphs, photographs, videotapes, CDs, etc. Fourth, the teacher as an important factor in the realization of the goals and objectives of environmental education. Teacher selects the curricula, evaluates environmental aspects of the material, organizes and leads the process of imbibing the knowledge, forming attitudes and habits among students, organizes and implements extracurricular activities and indirectly with his/hers own actions and examples effects on shaping the students' personality. Fifth, the press, television, radio and other means of mass media such as the Internet, have an impact on activation of citizens in environmental protection. Thus realizing informal environmental education and upbringing<sup>2</sup>.

### **Elementary, high school, higher education and environmental education and upbringing**

The school represents a basic factor in education and environmental education. The school has the greatest potential and the greatest opportunities to build awareness of the students. Besides the possibility of gaining certain knowledge, the school offers opportunities for the formation of certain habits and development of environmental awareness through the development of a responsible attitude to yourself, family and environment. Despite the fact that raising and educating young people about environmental protection has its nascency in family education, the school in achieving that goal becomes an irreplaceable element. How much importance will be given to environmental content largely depends on the competent institutions in the state, but also on the habits and the training of teaching staff by gaining experience in various training and seminars. An actual moment in the field of environmental degradation and the conditions in the environment itself alerts that the fund of environmental knowledge is not at the required level. Knowledge is poor, but have extremely great educational potential<sup>3</sup>.

In the curriculum for nine-year elementary education in the Republic of Macedonia for the academic year 2016/17, environmental contents are offered not only in the subject programs in

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<sup>2</sup> Ljiljana Adamović. Ekološko obrazovanje u funkciji zaštite životne sredine. [http://apeironsrbija.edu.rs/icama/2009/059\\_Ljiljana%20Adamovi%20-%20Ekolosko%20obrazovanje%20u%20funkciji%20zasti.pdf](http://apeironsrbija.edu.rs/icama/2009/059_Ljiljana%20Adamovi%20-%20Ekolosko%20obrazovanje%20u%20funkciji%20zasti.pdf) (accessed on 02.10.2016).

<sup>3</sup> Ljiljana Adamović. Ekološko obrazovanje u funkciji zaštite životne sredine. [http://apeironsrbija.edu.rs/icama/2009/059\\_Ljiljana%20Adamovi%20-%20Ekolosko%20obrazovanje%20u%20funkciji%20zasti.pdf](http://apeironsrbija.edu.rs/icama/2009/059_Ljiljana%20Adamovi%20-%20Ekolosko%20obrazovanje%20u%20funkciji%20zasti.pdf) (accessed on 02.10.2016).

natural sciences (Biology, Chemistry, Physics, Geography) but in the electoral list of subjects in which there is the subject environmental education. More specifically, the students of XII, XIII and IX grade choose one subject from following: our country, environmental education, homeland exploring, dances and folk dances, music projects, art projects, technical education, science projects, optional sports, health promotion, skills of living, while the students from grade VIII and IX have as an optional subject programming<sup>4</sup>.

Analysis of the high school curriculum and high school vocational education has shown that specific case with environmental themes is not presented. However, eco themes are taught through course programs in natural sciences, biology, chemistry, physics, and geography. Also, high schools have project activities in the sphere of environmental protection<sup>5</sup>. This level of educational upbringing, among other things, should enable planned development of ecological environmental knowledge throughout life. The primary aim, in that direction, should be the development of awareness of the basic features of the environment, relationships that exist within and the relationship with her based on what each individual will strive for its protection and improvement of the environment. At high school level, environmental education should provide reliable knowledge about the basic environmental issues of modern societies, to develop a critical attitude to the accelerated degradation of the environment and to stress the necessity of rational use of natural strategic resources such as oil, natural gas or water.

Within the higher education in the majority of universities that exist in the Republic of Macedonia, there are contents with more or less offering environmental education and environmental protection. This especially applies to teaching and course programs represented in the faculties of natural and technical sciences. As a good example, among others, we will point out the students of the first cycle of the Faculty of Philosophy - Institute for Security, Defence and Peace who have specific subject programs (environmental safety, management of natural resources, energy security), which offered up to date findings and develop critical skills in protecting and improving the environment. Also, "Environmental forensics" is a course program taught at the School of Security at the St. Kliment Ohridski University. This cycle of education of environmental protection needs to create a scientific potential of the country to create appropriate strategies for environmental safety. Acquired knowledge should be a guarantee for continuous upgrading process that will enable the successful identification and deal with all forms of endangering the environment. The scientific elite must create proper directions for creating and planning of development of ecological safety. Experience from other countries shows that education and upbringing of the need for environmental protection must begin from the earliest age. Higher education should give the final initial moment to build such a valuable system where the individual will become seriously aware of the need for a healthy, protected and improved environment.

### **Results of a survey on the need for environmental education within student population**

Already the view is firmed up that the need for education in the field of environmental protection is necessary in order to raise awareness among young people and acquisition of

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<sup>4</sup> Curriculum for the nine-year elementary education for the school year 2016/2017.

<http://www.bro.gov.mk/docs/nastavniplanovi/nastaven%20plan%20devetgodishno%202016-2017.pdf>

<sup>5</sup> <http://www.bro.gov.mk/index.php?q=mk/nastavni-planovi> (accessed on 21.10.2016)

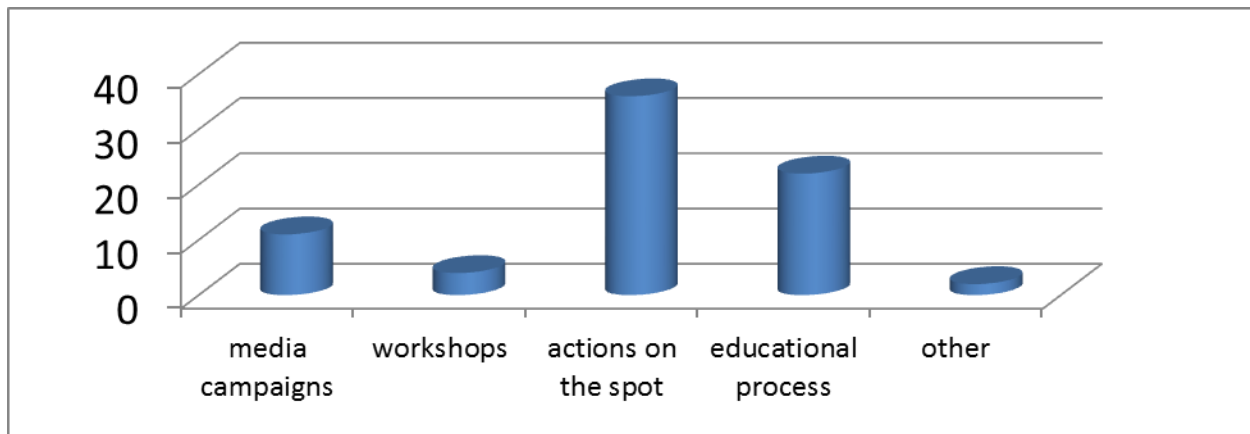
appropriate knowledge in this area. Same conclusion for crystal clear viewpoint exists also in the context of the need for environmental education to be implemented from an early age, but it should continue to other cycles of education.

To investigate the environmental education of students and gaining knowledge about the importance of this kind of education, the survey was realized with students by filling out a questionnaire with questions in the field of ecology<sup>6</sup>.

Teaching in the field of environmental protection respondents rated as important. Namely, they were asked the following question: If you listen to a course of the subject about the environment, how do you assess the significance of it? The answers were: very important, 64% important 34% and others 1.3%. In terms of knowledge which was acquired by respondents, 58.3% of them believe that knowledge for them is a novelty and for 34.7% were already familiar with. It can be concluded that the respondents are aware of the importance of environmental education and almost all declare that it is extremely significant and important part of their overall education of undergraduate studies.

In the questionnaire the respondents were asked a number of questions about the awareness among young people by listening to the subject content, so on the question: How is your awareness on environmental protection? The answers were: on the same level - 8%, on a higher level - 89.3%, do not know - 1.3% and others - 1.3%. On the question: What kind is most suitable for raising awareness about environmental protection? The answers were as follows: 14.7% - media campaigns, 5.3% - workshops, 48% - actions on the spot, 29.3% - teaching and educational process, and other 2.7%.

**Table 1. Ways of raising environmental awareness**



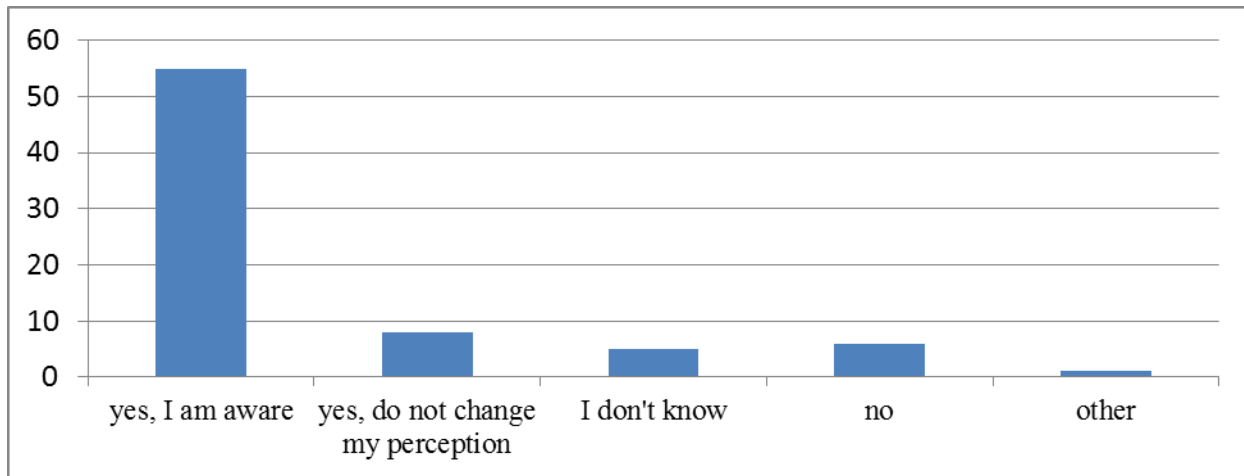
These results suggest the need for young people to be educated within the educational system for environmental protection, but also propose concrete actions and practical work in order to implement the acquired knowledge and to acquire new knowledge and skills in this area. Namely one-third of respondents believe that awareness of ecology can be raised with the teaching-educative process, which means that in the future it should be paid more attention to the curricula at all levels of education and representation themes for environment protection.

<sup>6</sup> The survey included students from the third year of the Faculty of Security in Skopje, attending classes for Environmental Criminology

Regarding the specific educational content for the subject Environmental Criminology, students acquire knowledge on which they can detect environmental risks and threats<sup>7</sup> in the environment where they live and learn, as well as specific actions that are criminal offenses<sup>8</sup>.

Thus, besides raising awareness among young people that there are some environmental risks and threats as pollution of water, soil, air, illegal trafficking in hazardous materials, etc., they gain knowledge and for the perpetrators and victims of environmental crimes. Due to that, the awareness of their victimization<sup>9</sup> is on a higher level that can be concluded from the responses to the question: Do you think that you are a victim of environmental crime after finishing the course?

**Table 2. Awareness of victimization**



We can conclude that more than half of the respondents can analyze environmental risks and threats that exist in their immediate environment and thus realize that they have become a victim of environmental crime. So as a result of their education, their awareness is at a higher level and they can detect threats to their lives, and to identify the specific criminal behavior of perpetrators. Thus they can become active participants in our society and report this type of crime or to take measures for their own protection in the future.

Concluded observations of the respondents can be classified into several findings:

- O -95,9% of respondents believe that education is necessary to recognize the risk to human health;
- O 94,5% believe information and knowledge provide greater protection in the society;
- O 62,7% believe that the lack of awareness contributes to the emergence of environmental crime.

Respondents rightfully link environmental education with peoples' health, because as they acquire knowledge about environmental protection, young people educate themselves and protect their health. Ecology is a science that studies the threats to the entire living world, hence

<sup>7</sup> Mileski T. Ecological security, sustainable development, sustainable security. Faculty of Philosophy, Skopje, 2011.

<sup>8</sup> Malish Sazdovska M., Ecological criminology, Solaris print, Skopje, 2009

<sup>9</sup> Malish Sazdovska M., Ivanov A., Victims of Environmental Crime (Students Perceptions of Environmental Crime), Criminal Justice Issues, Journal for Criminalistics, Criminology and Security Studies, Year XII, Sarajevo, 2012, No.5-6

young people will gain knowledge not only for their own protection but for the protection of flora and fauna which directly and indirectly affect health.

Also, the respondents believe that the information and knowledge provide greater protection of society, which actually indicates the need for their constant awareness and education about ecology. Only in this way young people can be educated to be aware of environmental risks and threats, and also for the measures that can be taken for a healthy human environment.

At the end of the section of the concluding observations, respondents emphasize that lack of awareness and ignorance of the effects on the environment contributes to the emergence of environmental crime. Indeed, if awareness of these offenses is a higher level, of course, it would act preventively and the number of crimes would be reduced. So heightened awareness is directly related to the prevention and reduction of environmental crimes in this country.

### **Conclusion**

Environmental education is significant in many ways in terms of education of children and young people in any modern society. Namely, due to the increasing technological development of increased global risks and threats to human health from pollution, radiation, climate changes associated with natural disasters and so on. In order personal protection and the protection of the entire living world, it is necessary that they have adequate knowledge of environmental protection. That implies the need for environmental education to be part of the curricula in the Macedonian educational system, starting from the earliest age of children in pre-school up to the highest levels of education in the country.

Actually, the results of the environmental education of undergraduate studies in which they study subjects in the field of environmental protection indicate positive results of environmental education. The participants concluded that their awareness was greatly increased, they obtained new knowledge and skills in this area that allow detection of certain environmental risks and threats, taking precise measures to protect and thus directly reduce the rate of environmental crimes in the Republic of Macedonia.

### References

1. Malish Sazdovska M., *Ecological criminology*, Solaris print, Skopje, 2009
2. Malish Sazdovska M., Ivanov A., *Victims of Environmental Crime (Students Perceptions of Environmental Crime)*, *Criminal Justice Issues, Journal of Criminalistics, Criminology and Security Studies*, Year XII, Sarajevo, 2012, No.5-6
3. Mileski T. *Ecological security, sustainable development, sustainable security*. Faculty of Philosophy, Skopje, 2011.

### References from web

1. Constitution of the Republic of Macedonia.  
<http://www.slvesnik.com.mk/content/Ustav%20na%20RM%20-%20makedonski%20-%20FINALEN%202011.pdf>
2. Curriculum for the nine-year elementary education for the school year 2016/2017.  
<http://www.bro.gov.mk/docs/nastavniplanovi/nastaven%20plan%20devetgodishno%202016-2017.pdf>
3. Ljiljana Adamović. *Ekološko obrazovanje u funkcii zaštite životne sredine*.  
[http://apeironrbija.edu.rs/icama/2009/059\\_Ljiljana%20Adamovi%20-%20Ekolosko%20obrazovanje%20u%20funkciji%20zasti.pdf](http://apeironrbija.edu.rs/icama/2009/059_Ljiljana%20Adamovi%20-%20Ekolosko%20obrazovanje%20u%20funkciji%20zasti.pdf)