

SPACE FOR THE ENVIRONMENTAL EDUCATION IN THE SYSTEM OF SECONDARY EDUCATION IN SLOVAKIA

PROSTOR ZA EKOLOŠKO OBRAZOVANJE U SREDNJOŠKOLSKOM OBRAZOVNOM SUSTAVU SLOVAČKE

Jozef Macko, Dana Blahútová, Nadežda Stollárová

Faculty of Pedagogy, Catholic University, Ružomberok, Slovakia

Pedagoški fakultet, Katoličko sveučilište, Ružomberok, Slovačka

Abstract

Present relationship between a man and a biosphere results from the level of progress of human civilization. The idea of permanently sustainable development is based on condition of positive qualitative attitudes, behavior and actions of people in the various spheres of society. Education and training is the main tool of creating positive attitudes towards the environment and permanently sustainable development. At present, developing contextual thinking in pupils seems to be in the forefront of the educational process. The need for direct contact with the environment and direct participation in the monitoring and problem solving activities prevails over the need of obtaining individual knowledge. We can "brand" this understanding of education as an environmental education. According to the progressive changes in the lifestyle of population, it is necessary to implement environmental education in all the social and educational levels of education. It cannot be understood as an isolated matter, but it must be an integral part of education as well as professional training for life. It must not be applied forcibly and should focus specifically on the environmental conditions of men.

Introduction

Nowadays the concept of education is changing. The main focus of education is shifting from a number of learned knowledge for their quality and ability to use knowledge in daily life. The aim is to break down the individual items because of their

Sažetak

Trenutni odnos između čovjeka i biosfere rezultat je napretka ljudske civilizacije. Ideja trajno održivog razvoja temelji se na pozitivnim kvalitativnim stavovima, ponašanju i djelovanju ljudi u raznim sferama društva. Obrazovanje i osposobljavanje je glavni alat za stvaranje pozitivnih stavova prema okolišu i trajno održivi razvoj. Trenutačno, razvoj kontekstualnog razmišljanja kod učenika je u prvom planu u odgojno-obrazovnom procesu. Potreba za izravnim kontaktom s okolinom i izravnim sudjelovanjem u praćenju i rješavanju problema prevladava nad potrebom dobivanja pojedinačnog znanja. Možemo "brandirati" takvo obrazovanje kao obrazovanje za okoliš. Prema progresivnim promjenama u načinu života stanovništva, neophodno je provesti obrazovanje za okoliš na svim društvenim razinama obrazovanja. To ne može biti shvaćeno kao izolirana materija, ali mora biti sastavni dio odgoja i obrazovanja, kao i stručno osposobljavanje za život. Ne smije se primjenjivati na silu, a treba se posebno usredotočiti na ekološkim uvjete u kojima ljudi žive.

excessive grip and isolation of acquiring knowledge in substance. They are replaced by individual education departments, which opens the way for greater coherence subjects, topics and information, emphasize the connection to real life. Such a possibility may provide cross-cutting

themes, which are generally intertwined through the education field. Cross-cutting themes can implement various forms - as an integral part of the learning content for education and appropriate subjects, as a separate subject in the curriculum expanding hours (profiling School), is the appropriate form of the project (in the number of hours that are assigned topic) or very effective form of course. A necessary condition for the effectiveness of informal and implementation issues is the use of activating, interactive teaching methods. Selection process and execution time cross-cutting theme is the responsibility of each school. At the level of higher secondary education establishes national education program cross-cutting themes: Multicultural Education, Media Education, Personal and Social Development, Environmental Education, Life and Health Protection, Project Design and Presentation Skills /1/. Cross-cutting themes are an important element in education and participate in shaping and developing core competencies especially in attitudes and values. The implementation of cross-cutting issues involved in several educational areas. Interconnection, knowledge, habits and skills students should note the connection between the knowledge that you have mastered the understanding of the issue from a broader perspective. Just so they can really understand global problems. Understanding is an essential condition for active students access to effective and sustainable protection of the environment.

The aim of cross-cutting issues of the environmental education is to contribute to the development of pupil's personality.

In the field of knowledge, skills and abilities:

- ability to understand, analyze and evaluate the relationship between man and his environment based on knowledge of the laws governing life on earth;
- know and understand the connection between the evolution of the human population and relationship to the environment in different regions of the world;

- ability to understand the connection between local and global issues and responsibility in relation to the environment;
- providing knowledge, skills and habits that are essential to everyday actions and attitudes of humans to the environment;
- develop cooperation in the protection and creation of the environment at local, regional and international levels;
- understand the social and cultural influences that determine human values and behavior, sense of individual responsibility for man's relationship to the environment as consumer and producer;
- be able to evaluate the objectivity and relevance of information on the state of the environment and communicate about them, and defend them rationally justify their views and opinions;
- the ability to use information and communication technologies and the acquisition and processing of information, as well as presenting their own work.

In the area of attitudes and values:

- perceive life as the highest value,
- understand the importance of sustainable development as a positive prospects for further development of human society;
- foster a sense of responsibility in relation to living organisms and their environment;
- to promote a proactive approach to the creation and protection of the environment through practical training;
- foster a sense of responsibility in relation to a healthy lifestyle and to perceive aesthetic values of the environment;
- ability to sense and sensitivity to nature, the natural and cultural heritage;
- deepen, develop and consolidate the value system in favor of proceeding to the environment;
- develop the ability to cooperate in a group, divide your tasks, take responsibility.

Ecological education versus environmental education

A Brief History of Environmental Sciences /2/

1. Education relation to nature (nature education) - between the world wars. Relationship to living nature, plants and animals, their importance to humans, exploring. The aim was forming positive relationships, respect for all life forms.
2. Education for Nature Conservation (conservation education) – the 50s of 20th century. Nature protection, protection of living nature from man, password "Know and protect." The aim was to understand the balance of nature (observation, collecting and exploring natural materials, walks and excursions to nature).
3. Education on the need for a clean environment (pollution education) – the 70s of 20th century. Effect of local ecological crises, environmental pollution by xenobiotics (polutants), deterioration of water quality and clean air. Concept of organisms as bio-indicators of environmental status, monitoring, effects of eutrophication. The aim was to develop awareness in relation to the quality of water, air, food, environment.
4. Education focused on the environment (environmental education) - the result of ceasing local crises to global environmental problems humans. Establishment of a comprehensive environmental education and training, the motto "think globally, act locally". Support for international activities.

Environmental education

Environmental education is focused on current problems of the contemporary world. The main purpose of environmental education is the understanding of complex and interrelated relationships between nature and human society and especially the awakening of interest in the environment /3/ (Matějček, 2007) In the broader spectrum includes all natural science, social science and technical disciplines related to human environment. It uses the knowledge field of science ecology, deals with man's relationship to nature and to the environment as well as care for the environment. The important parts are exploring the

impact of humans on ecosystems, use of natural resources, prevention of unwanted interference and pollution, remediation, nature and landscape protection, health care /4/.

Ecological education and training

Ecological education towards an ecoculture figures such as certain sum of knowledge, beliefs and values that enable a person to behave and act in accordance with the requirements of friendly relations with nature. Means to explore the general laws of development of nature and society, understand their interdependence, recognize the value of nature and be convinced of the need for harmony in the relations of man to man and man to nature ... " /5/. It is based on the basis of ecology as a science. Closer to focus on the natural environment than environmental education. The main objective is to understand the function of ecosystems and understand the needs of their protection, to explore relations in the natural environment on biological grounds. Important role in the understanding of the effect of global environmental problems at the local level.

Ecological education has several planes /6/:

The plane cognitive - cognitive development, where pupils learn to observe, know and aware of the context in the environment. Understand the processes that form the foundation of life, the impact of environment on organisms, human impact on the environment.

The plane of creating value-orientation-relationships - acquisition of ethical principles conduct and behavior, understanding the aesthetic value of nature as a whole, to maintain order and cleanliness in nature.

The plane activities (transforming) - includes responsible and careful negotiation in everyday situations, environment-friendly development of the cultivation of interpersonal relationships - esteem, respect, tolerance, etc.

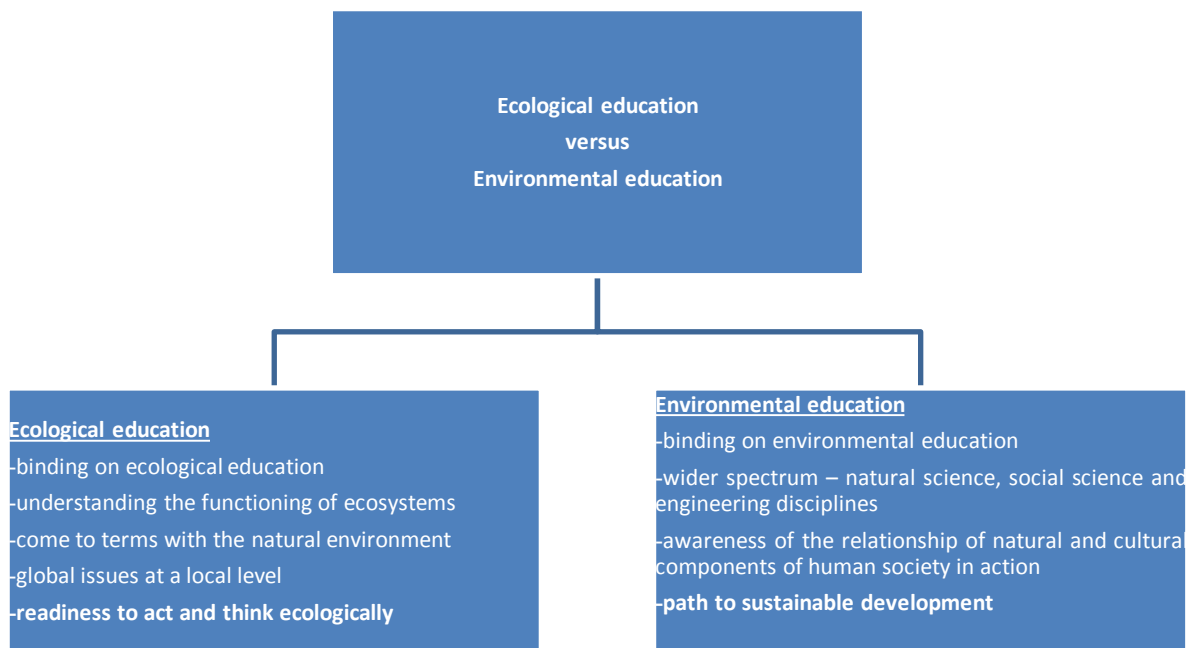


Fig.1: Differences between ecological and environmental education.

Ecological education in educational areas

During training, the teacher can include ecological and environmental education to a number of compulsory subjects, which, according to the National Educational Programme for 2nd grade of primary school - ISCED2 incorporated in the educational fields.

Education area "Man and Nature" covers subjects physics, chemistry, biology. In this area, students are given the opportunity to explore nature as a system, which includes mutual transformations act on each other and influence each other. On such knowledge is also based understanding of the importance of the natural balance of the existence of living systems, including humans. Science-activity and its investigative character classes allow students a deeper understanding of regularities of natural processes, and thus to realize the usefulness of science knowledge and their application in practice. Students may obtain information about the nature and its components through their own observations and experiments in the laboratory and in nature, which can develop skills in working with graphs, tables, diagrams, drawings, sketches. Education area "Man and Society" covers subjects history, geography, civics. Focuses on the

links between environmental, technical and economic and social approaches to sustainable development. Students knowledge through the nearest environment (family, school), which are part of gaining a basic understanding of their immediate social environment, the local community, region and other regions of Slovakia. Familiarize themselves with the territory, the people, their traditions and customs. The area opens up space for cultivating individual and social skills, learning to see things and phenomena in relation to one another. Education area "Health and movement" includes the physical education subject. Addresses the impact of the environment on their own health and the health of others. In connection with the problems of the contemporary world also points to the importance of environmental care in organizing mass sporting events. Education area "Art and Culture" includes objects visual arts and music. It provides many opportunities to reflect on the relationship between humans and the environment, the awareness of the natural and social environment as a source of inspiration for the creation of cultural and artistic values and the perception of the aesthetic qualities of the environment.

Conclusion

When applying ecological education and cross-cutting issues, environmental education is

necessary for teachers to use methods and procedures based on experience and the experience of students. Very appropriate are investigative methods, experiment, group problem solving, discussion, simulation, role playing, authentic teaching and project learning /7/, /8/. An example might be a yearlong project, which will be more themes from several subjects. In teaching may include cooperation with organizations working in local schools or region (forests of SR, Nature Protection, Club of Slovak tourists, Union of Nature and Landscape). Suitable filling teaching are walking associated with useful activities (garbage collection, cleaning of the exterior walkways, clean streams and wells). This form of learning can also contribute to increase the interest of students in science subjects. In addition to developing a positive attitude towards science, science knowledge and construed as an integral and indispensable part of human culture of the region /9/(Uhrinová, Zentko, 2010). It's difficult but even more valuable work of all teachers who choose and implement the educational process activating modern forms.

Acknowledgements

Contribution was supported by scientific grants awarded by the Scientific Grants Agency of the Ministry of Education and the Slovak Academy of Sciences VEGA 2/0113/12, GAPF 2/07/2012

Notes

- /1/ www.statpedu.sk/sk/Statny-vzdelavaci-program/Statny-vzdelavaci-program-pre-gymnazia/ISCED-3a/Prierezove-temy.alej
- /2/ Elijaš, P. Ekologické a environmentálne vzdelávanie vo svete. In *Stratégia environmentálneho vzdelávania a výchovy na školách Slovenskej republiky a vo svete : zborník z konferencie. Bratislava, 27.-28.4.1994*. Bratislava: Strom života, 1994, p. 90-99. ISBN 80-7098-035-4.
- /3/ Matejček, T. Ekologická a environmentální výchova. Praha: Nakladatelství České geografické společnosti, s. r. o., 2007, 52 p., ISBN 978-80-86034-72-0
- /4/ Machal, A. Malý ekologický a environmentální slovníček. Brno: Rezekvítek, 2006, 56 p. ISBN 80-86626-08-3
- /5/ Horka, H. Teorie a metodika ekologické výchovy. Brno: Paido, 1996, 75 p. ISBN 80-85931-33-8
- /6/ Ibidem
- /7/ Bellova, R., Melicherčíková, D. 2011: Chemické experimenty vo vyučovaní. Verbum - KU , Ružomberok, 117 p., ISBN 978-80-8084-699-2.
- /8/ Uhrinova, M. 2011: Vybrané didaktické aspekty prírodovedného vzdelávania v materských školách. Verbum - KU , Ružomberk, 93 p., ISBN 978-80-8084-786-9.
- /9/ Uhrinova, M., Zentko, J. 2010: Regional principles in the primary education in Slovakia. In: *Informatologia*. - ISSN 1330-0067, Roč. 43, č. 4 (2010), p. 328-331.