

M. J. Lisický: Ecological but especially environmental education

Ability and success of mankind to survive is dependent on the system of rules regulating the behaviour of individuals and collectives in natural as well as in social environment.

At present the man exceeds the frame of his individual and collective experience and he is often impossible to foresee consequences of different activities and their synergism. Many caused changes are irreversible and they are not repairable ex post.

Global changes have diverged character and in the beginning they are hardly comprehensible. In addition man brings into the environment qualities for the comprehension of which he has no organ of sense because in the course of evolution in his environment did not exist such qualities or they were unimportant.

Regulation of activities in the environment cannot be realized only by prohibitions. A complex and address system motivating everyone to responsible relation to the environment is necessary to be formed. This system has to integrate rational, ethical and aesthetic arguments into a uniform ideology.

The equilibrium of environment must be based on physiotactic principles: renaturation, recycling, establishing both intensification, and linear development limits.

Tendentious education may effect from the early childhood by play, personal example and special knowledge. In such a way may be reached that also a man with only fundamental knowledge is able to be an active partner in the decision process.

Multidisciplinary approach has to be changed by interdisciplinary one. In preparing university-educated environmentalists is necessary to put emphasis except of special knowledge also on the ability of cooperativeness, communicability, the ability of team work and leading of a research team as well as on the ability to solve the problems.

J. Kulich: Ecological education- its barriers and perspectives

In CSFR ecological education gets more verbal than real support. Since the sixties may be followed a systematic effort of the development of ecological education. Under the influence of the conference in Tbilisi was in Bohemia accepted governmental decision about ecological education, but its content was deformed by the regime of that time. Nowadays have been accepted certain documents putting emphasis on the need of ecological education, forming the need of national centres

for ecological education, the network of special organizations, education of teachers etc. A row of problems is outlasted: less priority of ecological education among the means of protection of human environment and school and cultural institutions, insufficiency of systematic support and deformation of ecological education resulting from this (conflictlessness, stereotypy, emptiness, theorization, passivity, disharmony in the content and orientation on different groups of people, intermittency and isolation from abroad, among education workers and in other spheres of social life). Improvement of the situation may occur if succeeds to support, fulfil and connect the spheres where ecological education is well realized. It needs not only civil initiative, self-help and foreign cooperation, but also state support. The strategy of direction has to be changed not for inactivity but for the strategy of active support. Tendencies being necessary to be supported in the interest of the balance of ecological education are: education in real environment, change of teachers monologue for a dialogue among the participants in education, stress not only on remembrance of information but also on motivation of their reception, on the ability to solve the problems and obtain information, utilization of formative task of the environment and personal example, balance of the aspects of technics, natural and social science, the endeavour at holistic interpretation of education.

L. Miklós: The conception of the development of ecological research and education of the slovak committee for human environment

The programme Ecological Academy sets out from the principles of environmental politics of the Slovak Committee for Human Environment. The programme of Ecological Academy results into realization of knowledge, one of its main ideas is its functional connection and reorganization of existing scientific and educational structures. The concrete mood may be different, it presumes connection of smaller structures, natural connection of the institutes of the Slovak Academy of Sciences and universities and more intensive commercial research and project activity is expected. The Slovak Committee for Human Environment is the initiator of the programme Ecological Academy, but it is not the leader of science, research, education and other activities, therefore the way of ensuring the Ecological Academy will be within the activity of single branches. The Slovak Committee for Human Environment presents them its demands held as priority. Programmes and sub-

programmes are filled with concrete projects. Ecological Academy has several parts, one of these is also the educational programme where is expressed the demand of the resulting profile of experts of protection and formation of human environment, which ought to control the care of human environment in the future. One of the main ideas of the educational programme is to establish obligatory block of subjects (the so called Ecological minimum) ensuring the basic stage of the cross-sectional knowledge of students. In the further part of the Ecological Academy is elaborated the programme of continual education of the officers of the Slovak Committee for Human Environment itself and also of administrative offices of human environment in all stages. A special activity of the Slovak Committee for Human Environment is the programme of education of all social strata - the so called Ecological minimum. The form and depth of the content of single blocks will be very heterogeneous.

M. Braniš: Management in the programme of environmental education at universities

A good graduate of environmental study has to be prepared as a theorist and practitioner in many branches of sciences in order to be able to use his knowledge complexly and synthetically. A real professional has to be able to work with facts, data and information as well as to obtain them, he ought to know the ways of communication with different types of experts, politicians and laymen and to create research and tutorial teams for them. Except of these he ought to be of high morality, ought to have deep aesthetic and ethical feelings and the ability to motivate the people round him by his enthusiasm. At universities of the USA and Western Europe specialists of this kind are educated in courses which have to be formed at our universities only now. This subject is called environmental management, although the word "management" in more extensive coherence means not only to direct but also to be able to work conceptually. What would be lectured, discussed in the course of management, what kind of form and content ought to have the subject "environmental management"? These questions have to be solved as soon as possible as well as the problem whether this subject ought to be taught at universities, at schools with technical or economical orientation or in all types of schools, because we shall need good experts of this field always more and more. The subject ought to be opened not only to the students dealing with human envi-

ronment in the future but also to people for whom ecological thinking will be a little part of their ideology.

M. Ružička: Endeavour at ecological literacy

Insufficiency of ecological education in all types of schools caused an initiative in proposition and organization of different species and forms of education not only at schools but also out of them. The summarization how many and what kind of specialists we have and what kind of education exists or we are able to assure ought to be the essential presumption of further consideration of the Ministry of Educational Affairs, Youth and Sport and the Slovak Committee for Human Environment. Acute lack of experts must be reduced by postgraduate study forms - there is the effort to institutionalize this form of study as a stable part of education. The programme Ecological Academy proposed by the Slovak Committee for Human Environment deals with this problem, similarly Academia Istropolitana and the Centre of Environmental Study of Danubian areas at the University of economics considerate this form of education. At present ecological and environmental problem is the object of the interest in all types of schools, especially at universities. These subjects are the part of the general basis in different orientation of university study, within the frame of existing tendencies of study new specializations are forming. New departments, faculties with this specialization are forming, too. These efforts are aimed especially at education of experts for research, management, planning or practice. The problem of education of teachers for the I.-III. stage of schools remains open. The conditions for basic education of our people to ecological thinking and feeling are created by ecologically and environmentally educated teachers for all types of schools. The close connections between scientific and pedagogical institutions enables to form good conditions for this work and in such a way may be formed a perfect educational system ensuring ecologically correct thinking.

J. Krcho: Environmental education in the teaching programme at the faculty of natural sciences of the comenius university

High level of knowledge and its effective transformation into social mind depends on various scientific disciplines, the Faculty of Natural Sciences of the Comenius University has very good preconditions for the investigation of natural environment, but the problems of global environment can be solved only in close interdisciplinary cooperation with other institutions. The faculty has biological, geographical, geological and chemical divisions

and recently the department of environmentalistics as a new self-contained discipline. Up to now the problems of the landscape have been studied in various departments, in the year 1990 this study was coordinated in the Department of ecosozology and physiotactics and it was incorporated into the biological division. In spite of favourable cooperation of the departments feasibilities of this constitution are insufficient. With the aim to support the education and to develop a self-contained programme of environmental investigation, the faculty has created a new division - the Division of environmentalistics with 4 departments: ecosozology and physiotactics, landscape ecology, pedology, landscape geochemistry. The division will closely cooperate with other scientific institutions (especially with the SAS) and their research workers will take a hand in the educational process. In order to guarantee the education of professional environmentalists the Faculty of Natural Sciences will also create a National Centre of Environmental Education.

J. Keppl, R. Špaček: Environmental education in instruction of architects

Instruction of environmental problems at the Faculty of Architecture of the Slovak Technical University is centrally ensured and methodically guided by the Department of Experimentally and Ecologically Determined Design and the Department of Landscape and Park Architecture. Ecological approach to architectural and urbanistic design ought to be a matter of course in all studios of the faculty.

The basic thought of the environmental education of students and application of the ecological approach to architectural design is to reach the harmony among man - architecture - environment (nature). Architecture is either the primary environment formed by man, or it is also the element of the superior environment, i. e. settlement, landscape. In such comprehension of architecture the knowledge from our own branch of science is not sufficient for us, but a close communication and cooperation with the specialists from other branches of learning is necessary. Our aim is to teach the students to approach towards architectural design as to the creation of the environment and to hold a dialogue not only with their colleague of building and engineer profession, but also with specialists of natural and social sciences. The result of this effort ought to be the so called synergetic architecture correcting negative environmental impacts on man and optimizing his environment and at the other hand it is an

organic component of the environment of a settlement, landscape, nature.

J. Szolgay: On the environmental education of water resources engineers

The paper reviews the major future water related environmental problems in the context of the environmental education of water resources engineering students. Questions of sustainable development as the first step toward long term environmental management are discussed. The role of water resources in the definition of the sustainability in the society, economics and the environment is seen to be the central future problem for water resources engineering specialists. The adequacy of their present day knowledge for the solution of these problems in water resources development is critically examined. It is emphasized, that several hydrological disciplines failed to develop as coherent scientific disciplines, technology failed to meet the challenges of the new situation. Severe communication problems between engineers and environmentalists have been identified. Water resources engineering education programmes of six European technical universities were examined and compared in the context of environmental education. Education seems to fail to meet the requirements of interdisciplinarity, the water resources engineer tends to isolate himself from environmentalists. A project on the Prague Agricultural University in environmental education of agricultural and forest engineering students for the integrated planning of land use and water resources is presented as a possible model for the future. The need for a new generation of water resources engineers, interested in interactions between moving water and the surroundings through which it passes, is stressed.

J. Tölgyessy: Environmental education at the chemical -technological faculty of the slovak technical university in bratislava

The aim of the environmental education at the Chemical -Technological Faculty of the Slovak Technical University is either to prepare learned specialists in such a way that they are able to solve the tasks of their branch of science in harmony with the claims for the care of environment and either to form in all school-leavers the attitudes that they respect and apply the aspects of protection of environment in their work. The environmental problem is in close connection with the programmes of special object. The education of specialists for solution of environmental problems is guaranteed by the object Environmental Technology and interdepartmental study protection environmental, further by postgradual and requalification

courses (short - and longterm ones) and by postgradual study in the branches "Chemistry and technology of human environment" and "Nuclear chemistry and radio-ecology". Education in this sphere is significantly favoured by intensive research activity in the field of environment and by connecting the students with it. Monographical publications of the workers of the Department of Environmental Science are also important educational means.

D. Kvasničková: Ecological education in primary and secondary schools

Ecological education in primary and secondary schools is of decisive importance in the formation of responsible, sensitive and professionally well -founded approaches to the environment. The task of the subjects is to give ecological bases, but the main point is in certain selected spheres of natural and social sciences. The present situation in our schools is not good, but it is gradually improved. At primary school a new ecological conception of natural history is prepared. A complex subject "The basis of ecology" is introduced at vocational schools including information about living nature, ecological principles, relations between man and his environment, environmental problems and their solution. A textbook has been published but for its realization is inevitable to form other necessary conditions, first of all to prepare teachers. At primary and secondary schools, vocational schools and training colleges are introduced non -compulsory and optional subjects of ecological problems. Professional ecological education is also an important task of vocational schools. Always is necessary to join the process of education with the influence of sentiments and activity of children and young people in the cause of formation of ethical principles and influence of creative approaches to ecological questions. From this viewpoint the correct choice of educational methods and forms as well as the realization of ecological education is of basic importance also in extracullicular activity. The realization of the complex system of ecological education is in the welfare of the humanization of the Czecho-Slovak school, as well as of the solution of ecological problems.

J. Pagáč: Environmental education informally

One of the form of ecological and environmental education is to form regional ecological centres, information centres of nature conservation, excursions and orga-

nization of various educational events in cooperation with different organizations.

In Slovakia the School of Nature Conservation - as the educational centre plays a great part in this education. It organizes short -term courses, summer schools of nature conservation, summer camps connected with nature treatment for different age- and social groups. A part of this ecological centre is the permanent exposition of posters published to the problems of nature conservation and protection of human environment in our country as well as abroad under the title ECOPOSTER. The Information Centre of Nature Conservation, instruction area in the landscape park and the Station of Young Protectors of Nature are also the part of the School of Nature Conservation.

The aim of ecological centres is to bring to people's consciousness to behave themselves in nature as a cultured human being and go there as to church, with respect and admiration.

V. Rosová, G. Bianchi: Psychological notes on bringing up a man, who lives in harmony with environment

Although defined as a process of reflecting biological, physical and sociocultural aspects and of acquiring knowledge, values, abilities, skills and the will for individual and social contributions to the solution of conteroporary and future environmental problems, environmental upbringing and education is mostly concerned only with environmental knowledge. In addition, primarily with the knowledge of sciences, and only very rarely with humanities and social and behavioral sciences.

Contrary to conventional teaching in environmental problems, the authors stress the necessity of psychological shaping of child's personality; a child who grows in emotionally and socially secure family environment develops confidence to all of the surrounding environments. His/her psychological health and psychosocial maturity is the first and most important condition for experiencing individual responsibility to all aspects of the environment. Such a sensitive personality needs only very little effort in institutionalized environmental education.

The authors illustrate the importance of psychological contents in environmental education on some of the most important personality variables, such as locus of control, prosociality, values system and its balancing, tolerance to ambivalence and the frustration of needs, and the role of conscience.

T. Hrnčiarová: When the ecologist is pleased by architecture ...

Its is an account of a theme how to return harmony, beauty and attractiveness to our towns. One of the possibilities is to influence aesthetic, ecological, ecoso-logical and environmental criteria - from the pedagogical process up to their application. Environmental viewpoints in architecture and building industry are not represented only by "establishing of town vegetation". Setting out to maintain and improve biological bases of life in an urbanized space is necessary to solve the problems connected with energy, water, wastes, noise, air, green areas and of course to take into account only unexceptionable building materials.

J. Čerovský: The global dimension of environmental education

Internationally, environmental education has been defined and described at the UNESCO Biosphere Conference in Paris, 1968, further elaborated at the Belgrade Workshop 1975 and the Tbilisi Conference 1977, innovated through an action plan approved by the "Tbilisi plus ten" Congress on Environmental Education in Moscow 1987."

The last three ventures have been conducted jointly by UNESCO and UNEP; these two organizations of the United Nations family are now executing a big International Environmental Education Programme (IEEP).

The role of non-governmental organizations and groups seems to be of a particular importance in environmental education. Internationally, a leading role has been played here by the IUCN - The World Conservation Union (International Union for Conservation of Nature and Nature Resources), especially through its Commission for Education and Communication. Also youth NGOs have an irreplaceable role to accomplish.

How can the global dimension of environmental education be of use for one single country such as Czechoslovakia? International cooperation in this field enables to "keep the pace" with the other world, and through involvement of both top specialists and practising educators from the field to bridge over the "vacuum" still existing between the ground, between excellent ideas and recommendations and the high global level and the educational field often "limping behind".

J. Gregor: The foundation of Laco Dolán

Its founder is the Central Committee of the Slovak Union of Nature and Lan-

dscape Protectors in Bratislava. The aim of the foundation is to support measures and concrete acts for improvement of people's health, especially of children and youth, to support ecological and environmental education of inhabitants, especially of children and youth by the means of art, to support young and budding actors the motto of which is nature conservation and care for human environment.

J. Drdoš: Representative meeting of american and czecho-slovak geographers

The first representative meeting between American and Czecho-Slovak geographers was realized at the beginning of September 1991 in the main geographical centres of CSFR - in Prague, Brno and Bratislava. The approaches of American geographers are interesting for the Czech and Slovak geographers because the environmental research has not the character of natural science, it does not concentrate on the problems of natural

environment, but it looks at it through its subject, i. e. the man - how is the environment perceived, judged and evaluated by him. Human being perceives the environment not only as its inhabitant, but also as its user and exploiter of its resources. Evaluation, planning and management of the environment is based on the knowledge about the relation between man and environment.

D. Kvasničková: State-wide conference "ecological education"

The conference with international participation held in October 1991 in Prachatic was aimed at international cooperation in ecological education. The accepted conclusions are urgent call for quick and considered improvement of the conditions for ecological education in order to gauge its importance from the viewpoint of nature protection, betterment of human environment in urbanized areas

as well as from the viewpoint of further social development.

J. Kovačičová: International conference on supportive environment

The international conference held in June 1991 in Sundsvall (Sweden) pointed at the fact that the problems of people's health and their environment are inseparably interrelated. It will be impossible to maintain the quality of the environment for people and other living organisms if mankind does not accept drastic changes in attitudes and behaviour considering the exploitation and conservation of human environment. Political decisions and industrial development base too often on economic profit. The basic task is to make the people in the developed world voluntarily to withdraw from the present development and direct it towards less resource-intensive ways.

Monotémy ročníka 1992 :

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|---|---------------------------------------|
| 1 | Environmentálna výchova |
| 2 | Právo a správa životného prostredia |
| 3 | Dreviny v sídlach a krajine |
| 4 | Veda a výskum životného prostredia |
| 5 | Európske aspekty životného prostredia |
| 6 | Historické mestské časti |

Oprava:

V čísle 6/1991 v Redakčných smerniciach, uverejnených na 3. s. obálky má byť správne: ... veličiny treba vyjadrovať v jednotkách SI.

Čitateľom sa ospravedľujeme.

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| s. 16, 43 | – S. Drozd |
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