

Processes of integration of ecological knowledge into development of science in the modern Kazakhstan

Problems of a spiritual and moral priority in the solution of questions of environmental management, formation of new type of public consciousness become very topical.

The last decades – time of development of two parallel: aggravation of environmental problems of all planet and their understanding by people. Ecological conditions of a new education system is the understanding that the way of improving of ecology of the planet, in addition to organization of nature protection events, lies also through an education system and background.

Significant role in the process of ecological education is formation of adequate attitude of the modern person, ability to reconsideration of a place of the person in the nature and teaching of a sense of responsibility.

Ecological psycho-pedagogics arose on a joint of three scientific disciplines: ecology, ecological psychology and pedagogics. Ecology causes the general perspective generated by a situation of ecological crisis on the basis of which the ecological psycho-pedagogics that generate specific content of ecological education: the amount of knowledge, abilities and skills which needs to be acquired. The ecological psychology gives an idea of regularities and development mechanisms of ecological consciousness of the personality on the basis of what the ecological psycho-pedagogics develops the appropriate specific principles and method of pedagogical control of this process.

The pedagogics defines the all-pedagogical principles and methods, and also organizational forms which are as appropriate used by ecological psycho-pedagogics specifically for the solution of tasks of ecological education. Historically ecological education started developing within separate subject matters of an ecological directivity. However, it is necessary to mark that there are also other concepts of the methodical organization of ecological education. In this plan two main tendencies prevail. Some experts believe that it is necessary to develop one subject "Ecology" which needs to be entered into the content of education at different levels as ecological education not identically biological though they also are in tight correlation. In the most complete look this concept found the reflection in training of "pure" ecologists.

However, in education sphere there is a contradiction: activities of people, their relation to the nature and own health does not correspond to that takes place in training courses on ecology. Ecological education is separate from reality and the attitude of the person towards this reality. In this regard there is a problem of switching on of the ecological knowledge received from a training course in system of fundamental world outlook installations of the personality as the

backbone element of the nature and person making single the replicating and developing system.

Ecological disciplines in higher educational institutions of the former USSR began to be taught from 70's. The first specialized department was formed in 1969 at the Kazan University, later transformed to ecological faculty. Now at the higher school teaching fundamentals of ecology is entered practically in all higher education institutions of the CIS.

At the same time many experts claim that introduction to programs of high school formation of courses of the general, or application-oriented ecology is not enough for achievement of the objectives of ecological education. Elements of ecological knowledge shall penetrate teaching all fundamental and special disciplines, and at all levels of the facts, laws, theories and finally to promote formation of ecological thinking. Process of integration of ecological knowledge into subject matters received the name of "greening". Now this approach starts getting the increasing support, as found the reflection in materials of the appropriate international conferences.

Greening of a subject matter requires revising of the maintenance of a subject matter. The choice of a conceptual basis, the principal reference point for selection of the content of updated education becomes the most important task at the present stage.

Systematization of ecological knowledge gradually led to appearance of such "boundary" areas as chemical ecology, engineering ecology, social ecology and many others. It is obvious that such development of science is an objective tendency. As in Post-Soviet didactics the fundamental principle of selection of the maintenance of a subject matter is transfer of system of science on system of a subject matter, internally the inter-disciplinary inherent in ecology science does not find adequate reflection within the separate taken subject "ecology". Being connected by thousands of threads to chemistry, biology, physics, geography, other fundamental disciplines, the ecology presses for appeals to the relevant systems of knowledge. Thus, the idea of greening of subject matters is not something artificial, far-fetched; it reflects the existing tendencies in development of science, methodology and natural sciences.

Condition of effective greening of educational process is systematic nature of greening [1, p. 147-149]. Ecological knowledge shall become an integral part of any subject matter that, however, is not reached automatically, by simple adjustment of training programs and textbooks. Teachers shall be trained the skills of greening of chemical, biological, physical and other subject matters. In this case process of greening acquires natural, creative character, and teachers not only are capable to reproduce ready recommendations, but also become full participants of

process of greening of education that creates absolutely other motivation of their activities of all process in general.

Possible approaches to the solution of environmental problems which finally are based on development of an education system are found in process of a human civilization. The education system which is only correctly constructed, adequately considering the current state of the world can guarantee and actively promote preventing of the threatening troubles at the same time. In this regard greening of education is a key, major link in case of a choice of approaches to transfer of knowledge, abilities and skills to the next generations.

The system of ecological education assumes involvement of all pedagogical collective; otherwise principles of greening will be broken. They are: generality and continuity of all steps of education; integration (vertical and horizontal); flexibility, variability, problematical character; communication of science and practice; humanization; orientation to the socially active personality. The system of ecological education consists of the following forms of operation which are adding and mutually causing each other: ecological training of teachers of school; greening through educational process (special courses, greening of subjects of not biological cycle); extracurricular activities; ecological training of parents; communication with out-of-school establishments; design of school in the spirit of harmony "person and nature" [2, p. 45-50].

Tendencies of integration and humanization of natural-science knowledge in the conditions of axiological, the personal oriented and activity approaches that make topical the ideas of development of ecological culture of the personality and society in general are inherent in the modern concepts of ecological education. Formation of ecological outlook and ecological thinking includes the following: formation of system of the general ecological knowledge; formation of special knowledge taking into account future professional activity; involvement of students to involvement in ecological actions (competitions, conferences, ecological programs, etc.) All this promotes formation of a uniform pattern of the world in consciousness of students, leads to humanization of educational process and expands opportunities of moral education in training activity.

Thus, the task of greening of education consists in formation of the new person who realizes himself in continuous communication with the nature, in formation of the expert who will create the new technologies and technique providing implementation of the concept of a sustainable development of society. Greening of education should set as the purpose not only conservation of nature, but also creation of thinking that provide transition to non-destructive environmental management. Greening should enter as part of ideology of society of 21st century. Greening of education leads to expansion of global ecological crisis.

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Literature:

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