

Modern Innovations in the System of Russian Education as a Factor of Its Effectiveness

Innovaciones modernas en el sistema de educación ruso como factor de su efectividad

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ABSTRACT:

The article is based on the institutionalization of the "Ecologization education" as process value-oriented influence of ecology as complex and integrative science to various categories of fields of activity, particularly, it's about disciplines and specialization. At the same time, the main content of the approach consists in the integral part of education process with dynamic development of society. The complex of the considered mechanisms is based on some models of the environmental education, the known conceptual approaches to formation of innovative environmental education of V.I. Panov. The major contradictions determining to choose a subject principle of this article consist in such factors as lack of a uniform education system, the unsubstantiated choice of the contradicting scientific approaches and concepts to the formation of educational process structure and in a deliberate exception of questions of ecologization of modern educational process. This article reviews these and some other factors which allow the authors to prove need of elaboration of new system approaches to design and formation of the modern educational principles, categories, standards and pedagogical tools. Such mechanisms as reduction of system of modern content of education in compliance with new conditions of social and economic

RESUMEN:

El artículo se basa en la institucionalización de la "educación de ecologización" como proceso orientado al valor de la influencia de la ecología como ciencia compleja e integradora en varias categorías de campos de actividad, en particular, se trata de disciplinas y especialización. Al mismo tiempo, el contenido principal del enfoque consiste en la parte integral del proceso educativo con el desarrollo dinámico de la sociedad. El complejo de los mecanismos considerados se basa en algunos modelos de educación ambiental, los enfoques conceptuales conocidos para la formación de educación ambiental innovadora de V.I. Panov. Las principales contradicciones que determinan elegir un principio temático de este artículo consisten en factores tales como la falta de un sistema educativo uniforme, la elección no demostrada de los enfoques y conceptos científicos contradictorios para la formación de la estructura del proceso educativo y en una excepción deliberada de cuestiones de ecologización. del proceso educativo moderno. Este artículo revisa estos y algunos otros factores que permiten a los autores demostrar la necesidad de elaborar nuevos enfoques de sistemas para el diseño y la formación de los principios, las categorías, los estándares y las herramientas pedagógicas modernas.

development in Russian society, other public formations having real achievements in questions of ecological culture are recommended to an approach in updating education content. To provide a basis of the approach, is a classification system for defining the environment as the habitat system; it's based on the combination of variety of natural environment, providing (or depriving) to satisfaction of vital human needs. On the one hand, the key definition in here is a link of human needs, and on the other hand-physical environmental properties. Such link forms the relation to the natural environment, being in interdependent ratio balance with each other.

Keywords: education, ecologization, sustainable development of society, social innovations.

Los mecanismos tales como la reducción del sistema de contenido moderno de la educación en conformidad con las nuevas condiciones de desarrollo social y económico en la sociedad rusa, otras formaciones públicas que tienen logros reales en cuestiones de cultura ecológica se recomiendan para un enfoque en la actualización del contenido educativo. Para proporcionar una base del enfoque, es un sistema de clasificación para definir el entorno como el sistema de hábitat; Se basa en la combinación de una variedad de ambientes naturales, proporcionando (o privando) a la satisfacción de las necesidades humanas vitales. Por un lado, la definición clave aquí es un vínculo de las necesidades humanas, y por otro lado, las propiedades ambientales físicas. Dicho enlace forma la relación con el entorno natural, quedando en relación interdependiente entre sí.

Palabras clave: educación, ecologización, desarrollo sostenible de la sociedad, innovaciones sociales.

1. Introduction

Educational system as such major institute of the social sphere is one of the factors of sustainable development of the Russian society.

This social institute ensures stable dynamics and safety of the Russian society in the modern world. And at the same time, there is a discrepancy of potential for social sphere to the increasing demands in the modern history of Russian development. This can be constantly emphasized in scientific publications, regulatory and legislative work, speech of heads of the Russian state. The main social problem of Russia's population is characterized by all parts of public life and goods products. It shows the whole range of scientific research aimed specifically at finding ways to reunite the resources of the state and public sectors. The main purpose is to provide sustainable development of Russia. According to the past few years researches this task can be solved by introduction of innovative technology in practice of management. The innovative vector of development as important to the social sphere development as to the branch of goods products development. Moreover, one can't be feasible without another. According to Gallup International/Worldwide Independent Network (GIA/WIN) and Romir, among global problem, environmental problems take the second place after terrorism; that situation continues to be of the greatest concern to all of us. Such public attention focused on environmental situation can be find in educational process. The term "Ecologization of education" has rather broad interpretation today. In turn, such public attention demands different level of a civil maturity and social responsibility of every single individual. The understanding that the modern achievement of stability in development of society ignoring universal human and social and natural values is impossible. That is time demanding. The solving of the problem is to provide the factors of ecologization of education as potential innovation in a paradigm of formation of ecopsychological approach to creation of modern educational environment in Russia.

2. Methodology

According to the article, there is one of the valuable contributions aims to form "ecological model of educational environment" in modern Russian educational system.

In the research, these authors are also guided by scientific works of foreign and national scientists (Komenskiy 1939, Lesgaft 1990), regulatory legal acts of subjects of the Russian Federation, and like a number of normative acts orders under the theme to consider.

Particular mention should be made of the situation in the concepts of "Differentiation of educational process", developed in Russian Academy of Education (RAO) (Lebedeva et al. 1997), "Psycho-didactic basis for developing of educational systems", Panov V.I., James J. Gibson (Gibson 1979) stressed the importance of the environment, particularly, the direct perception of how the environment of an organism affords various actions to the organism. His ecological approach is based on the environment as model has shown itself capable for

supporting productive and successful research, to provide or to block the most important individual needs to satisfy. There are fundamental notions of the methodological approach "Ecologization of education" described by Kirillov N.P. (Bondarenko and Kirillov 2012, Kirillov 2010). The approach is based on the concrete and scientific level of problem and target methodology and uses the principles, methods and methods used in modern pedagogics. The main content of this approach consists in the integral communication of educational process with dynamics of development of society. The approach assumes using of the corresponding set of the research principles allowing to create the scientific and information product. These principles are relevant to the tasks set in the sphere of information and transformation activity, adequacy of level of specification of the Nature Society system, scientific character, reliability, timeliness etc. There are main categories which appear in the approach: innovation, education, nature and its resources, environment, system, ecology, sustainable development of society. The methodological characteristics of the approach in researching of problems Ecologization modern Russian education assume use of certain methods and scientific tools. Such options include, for example, analysis, synthesis, a system method and a method of comparison to those.

3. Results

The lack of the uniform education system provided with the state ideological base naturally has generated the competition of different approaches to education in modern Russia. This circumstance demands continuous updating of educational technologies, the accelerated development of any stream of innovations. One of problems generating an object of research of innovative mechanisms in Russia (Maslikov 2017, Prodchenko 2018) consists in it. The next contradiction is the stream of innovations which the modern educational institute is sated, that's borrowed from the western education systems various, as a rule. It is necessary to understand that such innovative mechanisms pulled out from other system context, can't be always so organically entered in the system of national education. According to the requirement of the Russian legislation, innovative activity in education is using in legal purpose for ensuring modernization and development of the system, with obligatory accounting of the main directions of social and economic development of the country and also implementation of the main directions of policy of the Russian state in educational system. There are several such functional innovational groups contributing to get better educational process:

- updating of content of education;
- humanization and ecologization of education;
- updating of a role and share of design concreteness in education;
- statement and development of creative pedagogics;
- organization of network interaction of educational projects and programs of the Russian higher educational institutions;
- informatization and technologization of process of training;
- solution of management tasks with innovative educational processes.

Updating of educational content can be determined by such mechanisms as reduction of modern educational content in compliance on new conditions of social and economic development of the Russian society. It demands new interpretation of concepts of modern functional literacy and the general education of the new generation of the country. This process is caused by a humanization and ecologization of education, within these innovative directions modernization of education. The system of general and complex ecological education includes the preschool and general education, average professional and higher education, postgraduate professional education, professional retraining and professional development of experts and also distribution of ecological knowledge including through mass media, the museums, libraries, cultural institutions, nature protection institutions, organizations of sport and tourism as well. The analysis of normative legal acts shows us that the organization and development of ecological education system, formation of ecological culture are defined as one of the major principles is based on the economic and

other activity making impact on the environment. It applies equally to activity as public authorities of the Russian Federation, public authorities of territorial subjects of the Russian Federation, local governments, as legal entities and individuals. However, as Tatiana Chestina, Director of "ECA" Green Movement in Russia, Head of the "Eco-Protection" notes: "Though importance of ecological education and its need is declared in the Law "About Environmental Protection" and Bases of state policy in the field of ecological development of the Russian Federation until 2030, we can't see that in practice significant attention" is really paid as well (Rahimova 2018). Undoubtedly, educational institutions and cultural institutions have to become the main mechanism in the system of the Russian ecological education. A big contribution to formation of ecological culture and ecological education are also especially protected natural territories, public organizations, parks and as it was noted, the museums, libraries, media (Kryukova et al. 2016). At the beginning of the 21st century in the Russian Federation there were many non-profit organizations (NPOs) and the Russian citizens as personally, and in structure of various public associations have begun to show the activity. In this way, the system of continuous ecological education for sustainable development, gains a certain structure. All these factors are important to well-defined coordination and interaction of all structures covering all segments of the population for efficiency of this system. For this purpose, innovative platforms have to be created anywhere, at the federal, regional levels and levels of the organization. It makes innovative infrastructure in the system of continuous ecological education. An order of formation and functioning of these platforms are established by executive authority of the federal level conducting the activities to developing of state policy in educational system. It is important to note that the public authorities of federal and regional levels which are carrying out activity in the sphere of Russian education within the powers, are obliged to create conditions for a combination of theoretical preparation to practical activities in the field of environmental protection. As a positive tendency, it should be noted that in the system of the higher education for the last decade the number of the higher educational institutions has similarly progressed; they are in preparation with basic ecological specialties like "Environmental Management", "Geoecology", "Ecology", and others. The structure of ecological education is developed in the Russian Federation now is presented in Table 1.

Table 1
Structure of ecological education in the Russian Federation
(Dzhegutanov and Oleynikov 2006)

Direction	Organizational forms	Qualification of graduates
Ecological education (bioecology)	Biological and ecological faculties of universities	Ecologist (bioecologist)
Geoecological education (geoecology)	Geographical and geological faculties and universities	Geoecologist (geographer-ecologist, etc.)
Agroecological education (agroecology)	Agricultural universities and faculties	Agroecologist
Chemical-ecological education (chemical ecology)	Chemical and chemical-technological universities and faculties	Chemist-ecologist
Technical, technological education (industrial ecology)	Environmental faculties and departments of technological universities	Industrial ecologist

Socio- and economic-ecological education (socioecology, economics of nature management)	Economic, sociological, law and others schools and faculties	Economist-ecologist, socio-ecologist
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As shown in the table, the ecological perspective is present at the main directions of training of specialists for the national economy. At the same time, increase in the numerous environmental problems are caused first of all by social and economic processes in the Russian Federation requires the solution on training of universal experts who rather well understand not just natural-science questions, but the solution of social and economic problems of sustainable development of the Russian society. According to the situation, there is a question of training professional ecologists in the field of management, on federal and regional levels, of the Russian Federation. Thereby, there are fears thinking about the process of reduction of number of scientists, teachers, teachers and experts in the field of ecological education in the institutions of the Russian Federation. It might also be appropriate to stress the importance that often ecological education (education in the field of ecology) is implemented not by experts that leads to formation of pseudoscientific, not reasonable pseudo-ecological outlook and thinking. This provision makes it necessary to take into account the lack of training and retraining of official body who translate environmental knowledge into society. Besides, it should be noted certain difficulties in serious training of teachers – ecologists who are capable to report to trainees along with complex system knowledge of modern environmental problems and ways of their permission, but also will teach how trainees can use in practice their knowledge acquired in educational institution.

In our opinion, the modern level of development of ecological education, considerably lags behind degree of gravity and danger of environmental problems our society faces to. It should be noted that an enduring role in the advance of informal ecological education and education through mass media laying the formation foundation of "modern fashion for ecology and the nature".

4. Discussion

According to Panov V.I. (Panov 2001, 2007), the innovations leading to formation of modern economy of knowledge are put in some models of the educational environment. As for Panov V.I., he finds 5 main conceptual approaches to form the innovative educational environment.

1. The ecological-personal model of the environmental education.
2. The model of community-based environmental education.
3. The anthropological-psychological model of the environmental education.
4. The psycho-didactic model of differentiation and individualization of the environmental education.
5. The ecopsychological approach and model of the environmental education. Taking into account the limited opportunities of volume of this publication, to more detailed consideration the most innovative value ecological-personal model of the environmental education is offered.

In the theoretical and methodological position, the model is based on an ecological worldview in the approach to the perception of the surrounding reality. A platform of this approach, which is based on set of variety of the world around providing (or interfering) to satisfaction of vital needs of the person makes. Ecological consciousness can be characterized as the highest level of mental reflection of the characteristics of natural and artificial environment, the inner world a reflection of the place and a role of the person in the biological, physical and chemical world and self-regulation of an organism on this reflection.

For the function, the ecological-personal model of the environmental education, taking into account the psycho-didactic and ecopsychological principles of existence must be focused on formation the conditions to provide:

- Comprehensive education for students with subjective qualities, by means of formation of ability to be subjects not only the mastered types, but the physical and personal education.
 - Process of socialization of students according to the age periods of education and the individual requirements caused by the social and economic and culturological values of system of activity characteristic of this human community.
 - Involvement of students in various spheres of joint activity not just among themselves, but with adults, by means of educational, game, communicative, art, sports and other types of the spheres, as the basic factor influencing realization of natural and social need to become the personality in education taking the natural inclinations and abilities.
 - Searching and evolution of the creative individual, the mentality of the personality in the form of individualization, mental states influencing process of consciousness and behavior of pupils. The process is the substantial part of development of all spheres of mentality representing structure of consciousness, it includes corporal, emotional, personal, spiritual and moral, including ability to spontaneous regulation of the actions and states.
 - Development and improvement of ecological, educational, environmental protection technologies and their implementation according to natural, physiological, social features and regularities of age development of students. Therefore, all educational technologies and the educational environment have to realize at each step of process of training of a condition corresponds to age and psychological features of the modern student. As a result, it's necessary to create the environmental education as a system of the conditions and influences providing an opportunity for demonstration of the creative individual to study the pupils and by that the deep (potential) interests and abilities of pupils creating an opportunity to demonstrate. In this case, it should be noted, the researcher is guided by complementarity of two main features when it's about the meaning of environmental education. The first feature is motive and needs of the individual, and the second is based on the certain qualities and properties of the outside world giving opportunities for its educating and the personality development. At the same time, the complementarity forms interaction (activity) of the personality with the outside world. A problem to form an ecological consciousness occupies an important position functioning of ecological-personal model. In general terms the ecological consciousness is understood as a reflection of the psyche of a variety of man's relationship with nature, which mediate its behavior in the "natural world", and express axiological position of the subject of consciousness in relation to the natural world. It should be noted the problem of ecological consciousness has come into being quite recently, and it's a subject of ecological psychology just the last decade.
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5. Conclusion

It should be noted, the development and introduction of innovative mechanisms in modern Russian education is directly connected with relevance of some contradictions determined by lack of ensuring educational processes by the state ideological base, attempts to introduce successful western innovative educational mechanisms in the Russian education system and others. According to the analysis of modern system of Russian education, the factors promoting to disclosure the technological capabilities of innovative mechanisms on educational process now the following are:

- development of innovative infrastructure in an education system, these new substructural elements take place in all echelons of an educational system;
- creation of infrastructure and financial instruments of social mobility of students;
- a possibility to implement the innovative projects and programs by the structures realizing educational activity and other useful organizations operating in this sphere;
- expansion of the reasonable possibilities of employers to participate at all stages of educational process of the study;
- involvement of useful factors of interaction with institutes of fundamental science, activization of process to involve the students, graduates and teachers in fundamental, and in applied scientific research;

– individualization of educational process.

It's important, the main lines form the conceptual models of the environmental education. At the same time, the ecological-personal model of the environmental education is based on understanding of the world surrounding and social environment as habitats. This environment represents set of the opportunities of the world around providing (/interfering) to satisfaction of human needs. The nature of the functioning is determined by the level of formation of ecological consciousness of the student; in turn, it's caused by economic, social, psychological, anthropological and natural factors of the environment.

The modern innovations in the Russian educational system are based on a basis of creation of ecopsychological model of the environmental education put understanding that during her training it is expedient to analyze a mental condition and development of the personality in indissoluble unity of the social and natural system "Man-the natural environment (planet)". This approach allow to get the environmental education as the system of the social, pedagogical and psychological conditions creating an opportunity for comprehensive disclosure and development as for not revealed interests and abilities, and for improvement of shown abilities at the identity of the students, according to inherent in each of them individual natural inclinations and to requirements of all their age levels of socialization.

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