Education for Sustainable Development and Environmental Ethics

Anastasia Nasibulina*

East Siberia State University of Technology and Management, 40V Klyuchevskaya ul., Ulan-Ude 670013, Russia

Abstract

In the conditions of a global crisis education represents the most efficient way of forming a social and intellectual basis for the implementation of sustainable development principles and coevolution ideas. Due to mounting problems related to sustainable development the need of education for sustainable development continues growing. The article views the contemporary state of education for sustainable development (ESD). ESD is regarded as a way of forming of new consciousness and behavior through which human development course should be adjusted. A positive role of environmental ethics in the creation and development of ESD is shown. The experience of the Baikal region in the implementation of the ESD concept on the principles of environmental ethics is considered.

© 2015 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

Peer-review under responsibility of: Bulgarian Comparative Education Society (BCES), Sofia, Bulgaria & International Research Center (IRC) ‘Scientific Cooperation’, Rostov-on-Don, Russia.

Keywords: Sustainable development; environmental ethics; education for sustainable development; Baikal region

1. Introduction

The human dimension of the sustainable development model consists in the development of human potential primarily through the educational system. As the founder of the noosphere theory V.I. Vernadsky repeatedly emphasized, “a human personality is a key to everything” (Vernadsky, 1991, p. 102), and to a great extent sustainable development of the world depends on the formation of persons of good morals and highly creative abilities capable of tackling complex problems of development taking into account long-term systemic effects, the ones who can find solution to the global crisis. The leading role in this process of forming high human qualities belongs to the innovative education based on the principles of sustainable development. The idea of sustainable development should become a conceptual base and a foundation of the entire system of education.

* Corresponding author. Tel.: +7-964-404-302
E-mail address: dn.nastia@gmail.com
The UN Decade of Education for Sustainable Development provided a powerful impetus to reconsideration of ecological education in the context of sustainable development methodology. It emphasized that everything necessary for the achievement of sustainable development of society is rooted in a system of education where personality foundations are laid: quality of thinking, ability to model and build the future, moral values, ideals and spiritual appetite. Hence, the society needs competent pedagogical cadres with modern comprehensive cultural thinking, formed ecological values and high level of ecological culture.

Understanding of the contemporary worldview in the conditions of geopolitical changes and economic crisis is a key pedagogical problem of modern education that demands updating based on the principles of ecological and moral imperatives.

2. Education for Sustainable Development

The notion of “Education for sustainable development” first appeared in the UN documents in the second half of the 20th century. The development of the ESD concept is directly linked to the implementation of the main political documents adopted by the world community at the UN 1992 Conference on Environment and Development in Rio de Janeiro. At this summit it was emphasized that education is one of the key factors of attaining sustainable development. It is then that the world leaders announced that “education is a decisive factor of change” meaning changes to better, sustainable and safe future. The World Summit on Sustainable Development held in Johannesburg in September 2002 also proposed to consider education for sustainable development as one of the main priorities of the world community’s activity. Highly esteeming and supporting this initiative, the UNO announced the UN Decade of Education for Sustainable Development (2005-2014). The necessity of carrying the Decade emerged in response to the realization by the world community of the fact that traditional content, known forms and methods of education could not provide preparation of people conscious about future generations.

Education for sustainable development is a lifetime process going well beyond the limits of formal education and existing in a form of lifelong learning creating conditions for the development of environmental consciousness and formation of ecological culture. One of the key purposes of ESD is the formation of ecological world outlook.

At the moment the main objectives of ESD are the development of systemic worldview and critical thinking, acquisition of new knowledge and skills contributing to sustainable development of the society, teaching healthy lifestyle, nurturing of high moral values, teaching of sustainable consumption and nurturing of social activism.

Focusing on the present situation it is possible to emphasize some aspects characterizing real problems and prospects of further development of ESD:

- Nowadays education is subjective and inefficient. Education could not become comprehensive and topical. There is socioeconomic inequality and motivation to attain material benefits instead of humane and ecological well-being.
- ESD concentrates attention on equality problems by education and within education itself. Further goals in education should be concentrated on legal aspects, quality, comprehensibility and change of educational programs. It is also required to integrate ESD into other spheres of development.
- It is necessary to reconsider the notion of education quality that simultaneously includes Western and local knowledge and supports cognitive, emotional and practical abilities, potential and capabilities of students and their endowment with value, ecological integrity and equitable well-being.
- The present educational system strengthens a monopoly on production and control of knowledge for the benefit of dominant groups on both national and international levels. It is crucial to reconsider education at the heart of the ESD, transition from the dominant unstable Western model to provision of knowledge (scientific and traditional), skills and values to students for the formation of a sustainable world. Besides, ESD advocates for a change of priorities in all spheres of social life, not merely in education or scientific research.
- Involvement of children is the most important component of ESD and sustainable development.
- Planning in education should be multifaceted and interdisciplinary. Needs of all groups are taken into account in curricula and process of education. It is the key principle and basic value. Also important is the participation of representatives of all strata and spheres in the discussion and planning of sustainable development.
- Global citizenship is one of the main themes of ESD. In the contemporary education the main tendencies are concentrated on national-oriented content of educational programs. Taking into consideration our
interdependence in the globalized world modern education has to develop understanding of the fact that our present actions will impact people living in other parts of the world as well as future generations. Here we talk about the formation of citizens who realize not simply importance of cross-cultural dialogue and respect to cultural diversity, but also the need of changes in the understanding of how we treat the ecosystem sustaining our life and providing means of subsistence. ESD advocates not only a change in behavior in a certain direction, but a new way of thinking, habits, mindset and values reflecting national and global needs for the provision of ecological sustainability based on social and ecological equity.

The system of education for sustainable development possesses a considerable potential. First, ESD is aimed at prevention of ecological catastrophe, provision of quality life and environmental well-being of the country and region, development of environmental infrastructure, preservation of human health, acculturation, environmental awareness, overcoming of the destructive consumerism, training of population in understanding of the necessity to save natural resources and pollution abatement. Second, ESD is an instrument of forming civic society, civic responsibility and democratization of social relations. It creates conditions for access to ecological information and formation of NGO networks, contributes to the development of values promoting national interests of every country. Third, ESD may provide solution to general educational problems, such as strengthening the status of education as a social institution, improvement of general quality of education through its systemacity, reiteration from the anthropocentric to the ecocentric paradigm, priority of moral values in upbringing, forming of strategic thinking skills, networking with the broad range of stakeholders, distancing from scientism and technocratism in education in the direction of culture-centric education; formation of genuine interest to learning, bonding of teachers and students and incentives for independent study; inclusion of interactive methods of teaching, modern approaches and educational technologies in education process, transition from a reproductive system of knowledge transfer to creative teaching methods; systemacity and multidisciplinarity of education based on understanding of interdependence and comprehensiveness of problems of nature, society and economy, and, for example, preservation of further education institutions and quality improvement of teaching natural sciences. A synthesis of national traditions and world innovations, and apprehension of the positive experience of each country, that is, expansion of ESD beyond the limits of environmental education, its educational potential and a high status of informal education.

Based on the outcomes of the UN Decade of Education for Sustainable Development (DESD) the UNESCO expert group worked out the Global program for the transformation of DESD into an institutional process after 2014. This program was developed with regard to the DESD experience and previous UN reports on various issues of education, and on the basis of broad consultations with the representatives of governmental organizations and NGOs from over 100 countries. After a thorough discussion the Global Program was approved at the World Conference on Education for Sustainable Development held in Aichi-Nagoya, Japan in November 2014.

The Global program emphasizes the fact that sustainable development cannot be attained exclusively through political agreements, financial stimulation and technical decisions. Sustainable development requires changes of mindset and modus operandi. Education plays the key role in the provision of such changes. Education has to change in such a way that every person will have access to knowledge, skills, and values expanding his rights and capabilities for contributing to sustainable development and carrying out of actions in the name of preservation of nature, greening of the economy and creation of a fair and equitable society.

3. The role of environmental ethics in ESD

Education should be based on the traditions of classical education, such as fundamental character, depth, interdisciplinarity, continuity and humanism. That said, the systemic approach to the interaction of man, society and nature should be at the heart of this process. Besides its traditional function, i.e. transfer of knowledge, the system of education for sustainable development has to fulfill new functions, those of foreseeing and forecasting of the sustainable future, formation of a noospheric personality type capable of implementing the sustainable development concept. The new noospheric system proposed by V.I. Vernadsky should be based on the ecological imperative in the relationships of man and environment. The society should always be responsible to nature. In the connection
with the fact that the notion of responsibility is an ethical category, environmental ethics may act as one of the main instruments in the system of education for sustainable development.

Considering moral relationships of man and environment, environmental ethics embraces the broadest circle of problems. Environmental ethics is a teaching about moral relationships of man and nature based on the perception of nature as a moral partner, equivalence and equality of rights of all flesh, aimed at the solution of the environmental problem. According to the environmental-ethical concept of the noosphere the main goal of sustainable development of a society may be characterized as follows. First and foremost, it is the construction of a system of value and normative attitudes of the society defining harmonious relations between man and nature. Achievement of this goal presupposes solution of the following problems: limitation of overconsumption by the rich (people and countries) and eradication of poverty; sublimation of human needs, i.e. limitation of material consumption and stimulation of spiritual (scientific, artistic, etc.) creativity as a form of a man’s being in the world; provision of efficiency of using material and intellectual resources of the society, non-decreasing growth rate of productivity of social and natural systems not only at present, but also in the future; preservation of integrity, beauty, diversity and sustainability of all ecosystems of Planet Earth. The reorientation of value system offered by environmental ethics aims at overcoming the consumer intentions of the industrial civilization (Mantatov, 2014).

According to the noosphere concept the environmental-ethical development paradigm emphasizes the defining role of the humanity’s spiritual power, scientific thought and moral foundations. The problem is that the science and technology progress, and production of material goods and services, financial and economic structures should be not a goal, but merely a means of consolidation of the highest ideals of human existence. They are creative life and knowledge of the world, comprehensive harmonious development and spiritual-moral enhancement of people. The “Concept of Sustainable Development for the Russian Federation” reads, “The movement of the humanity towards sustainable development will finally lead to forming of the sphere of mind (noosphere) predicted by V.I. Vernadsky, when spiritual values and knowledge of the Humanity living in harmony with the environment will become measures of national and individual richness” (Concept of Sustainable Development for the Russian Federation, 1996). Hence, sustainable development must be realized and understood as a moral and historical objective and a necessity to transfer from the material (industrial) civilization to spiritual (ecological) civilization.

4. The Baikal region in the ESD system

Taking into account the fact that the Aichi-Nagoya declaration on ESD adopted in November 2014 accentuated that local, national, regional and global contexts must fully be taken into consideration during the implementation of ESD, the role of culture in providing sustainable development and the need to respect peace, non-violence and cultural diversity of local and traditional knowledge, common wisdom and indigenous traditions (Aichi-Nagoya declaration on Education for Sustainable Development), the Baikal region is the most suitable site for the development and implementation of an ESD system based on environmental ethics’ principles. The environmental-ethical potential of the Baikal region allows introducing the sustainable development principles to all spheres of the society’s activity, first of all, to education. Over the Decade of Education for Sustainable Development, by reference to the analysis of national and international educational practices and experience of educational institutions’ activity, the ESD strategy for the Baikal region was developed. Traditionally, higher education plays the leading role in the ESD. With the foundation of the Institute of Sustainable Development at East Siberian State University of Technology and Management the reorientation of education on all levels for attaining the goals of sustainable development commenced. The main goal is to integrate the principles of sustainable development and environmental-ethical traditions of the indigenous peoples into the educational system of the Baikal region. Implementation of ESD principles goes in compliance with the noosphere theory by V.I. Vernadsky and the sustainable development concept of the Russian Federation.

Education in the Baikal region generally reflects common tendencies of education development in Russia, but displays some peculiarities based on cultural and historical circumstances and conditions of nations settled in this region. The educational paradigm features the following aspects expressing the integrity of the common and the specific:

• Connection of education with cultural tradition, human striving to be capable of cross-cultural communication and absorbing values of the new globalized civilization;
• Change of education model: from knowledge about nature to nurturing value-based attitude to it, from national-local to noospheric-global;
• Orientation toward values of global and regional sustainable development (Mantatov & Boldonova, 2014).

Ethical and environmental upbringing for the sustainable development of the Baikal Natural Territory is a specific feature of the educational paradigm of the Baikal region. Its main vector is formation of respectful attitude to the world natural heritage site – Lake Baikal and other natural sites based on understanding of the inherent value of nature and its deep understanding from scientific and ethical viewpoints.

Based on the sacralization of Lake Baikal study courses in Social Philosophy, History of Buryat Literature, Folklore Studies and other disciplines were developed. In secondary and higher educational institutions a whole system of training, lecture and practical courses was established. Experimental education models based on the principles of environmental ethics are implemented.

Syllabi and education programs are aimed at the creation of a careful and moral attitude to nature. Environmental ethics is an exclusively valuable resource for making of the ESD system and ecological culture.

Implementation of the ESD strategy in the Baikal region presupposes introduction of the following changes: revision of all curricula and educational standards with reference to regional problems of sustainable development; reworking of grading system for the assessment of knowledge and skills in compliance with the recommended parameters and indicators of sustainable development in the “Concept of Sustainable Development for the Russian Federation,” UN and UNESCO documents. The project of sustainable development of globalizing Siberia forms the conceptual basis of education modernization in the Baikal region. In this connection there is a necessity to expand cross-cultural communication and international cooperation.

At present ESD may be characterized as a type of “vertical” education. ESD penetrates all levels of education and requires involvement of NGOs as well as interest of governments in the formation of an integral system. This comprehensive character represents both strong and weak sides of education. One of the key instruments of increasing ESD efficiency in the Baikal region is the change of the population mentality, motivation of people in guaranteed future for our and future generations, one of constituent elements of which is clean environment. To that end, the agitation-and-information aspect may become the main method of achieving the goal. Wide dissemination of information about the ecological situation in the region and uniqueness of its natural and aesthetic potential is necessary, as is stimulation of public interest to the solution of environmental problems. Besides, the ESD system will become efficient in case when in addition to curricular and teaching methodology issues a new practical agenda emerges within it in order to form environmentally and ethically straight lifestyle of the population. To achieve this, it is necessary to use both traditional means, such as regional and local orientation of education and the implementation of interactive teaching tools and methods.

5. Conclusion

Summing up, the available experience and conceptual base of education for sustainable development helps make education more efficient since they concentrate attention not on simple reproduction of the acquired knowledge, but on its creative practical use, especially for the solution of ecological and social problems. ESD is able to provide education with the orientation toward the future. At the same time it is relatively free from ideological biases and may serve a developmental vector for education, being free of transitory trends. It is an international movement the participation in which would contribute to better integration of the countries into the international educational space. ESD is one of the means of societal and economic modernization since it teaches people to think in modern categories. In the long run it contributes to nurturing of a generation capable of producing innovations. Sustainable development is a global phenomenon. It is crucial to unite the humanity by all means (including educational tools) for the implementation of this idea.

The apprehension of past experience testifies to the fact that by the middle of the second decade of the 21st century the ESD process approaches a new stage. Over the past years the national educational systems had opportunities to self-determine in the global educational process by carrying out public and expert scrutiny of the first steps and accumulated experience in the field of ESD. A new step towards understanding of the necessity of strategic design of national itineraries towards ESD, organization of flexible management of this process with regard
to social challenges, and provision of mechanisms of self-supporting national educational process for sustainable
development is ahead. The main objective is to develop the value component of ESD taking into account local
specificities and cultural peculiarities based on principles and values within the sustainable development. With that,
it is important to timely single out new tendencies of growth, accumulate experience of tackling complex problems,
learn to quickly disseminate and integrate it into the broadest context of educational environment in order to give all
society members a chance to work on the creation of sustainable future.

Therefore, taking into account international recommendations on balance and integration in the content of the
contemporary education of three fundamental problems of sustainable development: economic, social and
environmental, ESD should be based on value-oriented, cross-disciplinary integrated education contributing to the
development of a system of thought, understanding of the scientific worldview and formation of new values based
on the environmentally oriented world outlook and environmental ethics.

Acknowledgements

This work was performed under the grant “Young scientists of the East Siberia State University of Technology
and Management”.

References

Mantatov, V.V. (2014). Etiko-ecologicheskaya paradigma ustoychivogo razvitiya I proyekt ekosotsialisticheskov tsivilizatsii [Ethical and ecological paradigm of sustainable development and project ecossocialist civilization]. Vestnik ESSUTM, 4(49), 151–155, Ulan-Ude: Izdatel’stvo VSGUTU.