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www.crdeepjournal.org*International Journal of Basic and Applied Sciences (ISSN: 2277-1921)***Review Paper****The Concept of Sustainable Development: Ecological Thinking, Consciousness, Responsibility: A Preliminary Review****Nino Lomtadze; Nargiz Alasania and Tornike Tabatadze***Batumi Shota Rustaveli State University, Batumi, Georgia.***ARTICLE INFORMATION***Corresponding Author:*

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ABSTRACT

The article below justifies the importance of discussing such topics in the concept of sustainable development as following: ecological thinking, ecological consciousness, ecological culture and education; ecological responsibility is formulated. One of the major problems of the mankind in the beginning of the 21st century is to overcome the global ecological crisis. There is no alternative, as if mankind fails to solve this issue; it will jeopardize its existence.

Introduction

Education for sustainable development – means strengthening society and country through quality education. It's important objective is modernizing of education system and equipping future generations with such knowledge and skill as critical thinking, decision-making, problem-solution, systemic thinking, social and cooperative skills. Therefore, to teach principles of sustainable development, it is important to modernize education system and develop high level of analytical thinking.

In present day ecological challenge of the existence of human civilization and its development on the planet is determined by perceiving that mankind's technological abilities became equal to the global processes of Earth's development. By perceiving this, we realize that, first of all, as B.I. Vernadski noted, noosphere becomes the core factor of planet's, as cosmic body's, development; on the other hand, as hundreds and thousands years ago, the issue of self-survival of homo sapiens, as a biological creature, will still be at stake. All this is caused by the ecological imbalance on the planet, which gradually becomes irreversible and has a negative influence on humans' physical as well as psychological development, their health and genotype [1].

In the 80's an international commission on environment development was created by the UN. With an aim of solving issues connected to the ecological crisis a concept of

sustainable development of human society and natural environment has been suggested which was approved by many countries in the world. The supporters of the concept of sustainable development don't realize completely that keeping environment on planet is impossible without changing people's attitude - developing ecological consciousness, changing mankind's ecological perception and formation of ecological responsibility [2]. Human's controversy towards nature's evolutionary development is the reason of anthropocentric ecological consciousness which is the psychological cause of ecological crisis. Correspondingly, the alternative form of thinking should be the kind where the relationship – human as a subject of the development of planet and planet as the subject of nature's development – exists [4].

Review

Generally, under the term of ecological consciousness is meant the reflection of human's attitude towards nature in psychic, which plays a role of mediator between human and nature. As researches showed, ecological consciousness is a complex psychological education which includes cognitive, regulatory, emotional and ethical aspects [3,5].

Ecological education is traditionally considered as the basic means of formation of ecological consciousness and culture. Therefore, it's obvious that in the concept of sustainable development of the UN the education concept has been

included as the new stage in ecological education. Pedagogically, the main idea of this concept lies in "ecologizing" every sphere of education which will support formation of ecological culture in individuals of all age groups.

In spite of having various approaches to determining and studying ecological consciousness, they are united by the methodological positions of the society, which is a basis for different kinds of researches in ecological consciousness and helps to implement basic positions of epistemological paradigm during determination of psychological processes and represents a subject as well as an object of the research.

An important function of this paradigm is that consciousness (ecological as well) is discussed as an object of the research, as the highest form of the psychic's development, i.e. the product of human's psychic development as a result of its relation to nature and social environment. For this reason ecological consciousness, as an object of making diagnosis, is represented in a frozen (static) form from the very beginning, as an individual psychological data. Depending on author, for diagnosing research object and ecological consciousness, this or that function of consciousness is used (reflection, regulatory, productive) or its components or the correlation between conscious and subconscious. Here we can also mention the research of consciousness the starting point of which is postulating of objective context of the consciousness; political consciousness, civic consciousness, ethnic consciousness, ecological consciousness, religious consciousness, etc.

According to A.G. Spirkin consciousness is mind's highest ability connected to the ability of speech characteristic only to a human. It includes generalization, evaluation and is directed to describing constructive and creative transformation reality; conscious management of human's actions and self control.

Methodological precondition of such approach towards the problem of consciousness is the attitude "subject-object" transformation in psychology in the following manner: subject of consciousness – object of consciousness. Principal characteristic of given attitude lies in the logical discussion "subject-object" previously named by us. This kind of approach is discussed as the epistemological paradigm of research on consciousness. Other than that, ecological consciousness is a subject of sociology, psychology and pedagogic research. Despite the fact that subjects listed are different from each other, they are united with ecological education, or ecology in wider sense. For example, formulation of the idea of this knowledge is possible in following way: Human can rearrange nature according to his goals, however, he should take into consideration ecological boomerang, as the nature can "revenge". This means that formulation of ecological consciousness problem happens in the following manner: ecological – non-ecological.

Besides having various approaches to ecological consciousness, relatively important is the polarization of

ecological consciousness on anthropocentric and ecocentric types. As researches showed, the main priorities of anthropocentric consciousness are human's pragmatic interests and his influence on nature. In difference with this, the priorities of ecocentric type are ecologically oriented values and human influence on environment. Real (actual) consciousness includes anthropocentric as well as ecocentric components. Besides, it depends on the specific situation containing ecological risks which requires decision making. In the context of sustainable development context problem of ecological consciousness is also connected to the concept of ecological culture which possesses its basics of ecological knowledge. Ecology, in its wider sense, is not a concept of sustainable development, although, the concept of sustainable development itself is a socio-economic order of world society development, as one of the manifestations of globalization.

The question is: What role ecological culture plays in the globalization process of ecological consciousness.

Ecological education which traditionally is considered as one of the basic tools for formation of ecological consciousness and culture is closely connected to this question. Therefore, it's quite obvious that the conception of sustainable development of UN includes the conception of education for sustainable development as a new stage in ecological education. From pedagogical point of view, main idea of this conception lies in "ecologization" of every field which will support formation of ecological culture in humans at any age.

It has been established by the researches that modern technological education cannot provide formulation of ecological consciousness of ecocentric type. Another problem arises: what should the technological education be like in order for its participants to be able to implement the conception of sustainable development?

In the context of natural ecosystems and sustainable development of human society ecological education should have its own status: from pedagogical discipline it should be transformed into social tool of implementation of sustainable development conception. Other than that, education should fully serve preparing staff for implementation of sustainable development conception in accordance with ecological imperative. Ecological imperative means such relation with nature where only actions not ruining ecological balance are allowed.

The issue of environment and maintaining life on the planet cannot be solved unless humans fully understand that they are the product of nature's development and the means of managing common natural system of "human – planet". This indicates that a human should be seen as a subject who implements the principles of his being and development of environment as well as the whole planet during the process of self-realization.

Table 1. Type of Ecological awareness

Types of ecological awareness	Priorities	Human as a subject of ecological responsibility
Anthropocentric	Pragmatic interests of a human; Human impact on nature	Epistemological
Eco-centric	Ecologically oriented values of a human; Human impact on nature	Ontological

Therefore, it is quite clear that human's ecological responsibility is determined by its role as the subject of development of various daily aspects. This point that a human can be seen as subject of ecological responsibility in this or that form, according to what he thinks:

- Epistemological subject of self-development (as a representative of mankind) in relation towards environment – consciousness of anthropocentric level with or without ecological responsibility.
- Epistemological subject of ecological evolution of mankind's consciousness – with the level of knowledge from biosphere to noosphere, human with his ontological role in the development of global ecosystem. The ecocentric level of consciousness.
- Ontological – noospheric subject on the planet with which a human should create united ontological subject (polysubject) with connection to evolution (co-evolution); ecocentric type of a human starting with an individual including society and planetary scales.

Conclusion

Therefore, based on above mentioned, we can say that the perspectives of finding the ways of implementation of sustainable development is based on how much an individual will be able to find the principles and idea of nature in himself. Education for sustainable development will support development of critical thinking, formation of ecological awareness and raising of responsibility among young people.

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