

EDUCATION FOCUSED ON ECO-LITERACY – THE WAY TO TRANSFORM THE ECONOMY ONTO A SUSTAINABLE

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Abstract: Modern civilization threatens the earth's nature, but also itself, and thus sustainability, resp. sustainable development has also becoming a challenge for education and training. Based on the explication of the reasons evoking the need to transform the economy onto a sustainable, the paper pays the main attention to eco-literacy, which is one of the components of education for sustainable development. Its aim is to justify, through the theoretical research, that, especially at schools that prepare experts for practice in the economic sphere of society, the education should, among other things, focus on the eco-literacy of future graduates. Such education is presented as an important component of education for sustainable development but mainly as a way to transform the economy onto the sustainable in accordance with the main objective of sustainability. It should be based on a value reorientation of human, society and civilization, on a holistic perception of changed economic reality, and respect the laws of the real world and nature. In addition, the paper outlines what the education aimed at eco-literacy of subjects in the economy should include and last but not least it emphasizes and justifies the need for its implementation in education in those educational institutions that prepare future experts in the field of economy. In conclusion, the expected contribution of this education to the development of the sustainable economy but also to the whole society and culture is pointed out.

Keywords: Eco-literacy, economy, education for sustainable development, nature, sustainability, transformation.

1 Introduction

In connection with new global conditions in the world, several negative phenomena and processes have been emerging that ultimately endanger the lives of people in the contemporary world. Global environmental changes have been going on over the past decades with increasing intensity and dynamics, and besides the exponential growth of human population we are putting them into the context with economic development in the new global environment. In this environment, there is a growing conflict between human and nature, ecological and environmental problems and crises have already obviously acquired a global dimension, while the sustainable development on Earth is endangered.

Economic subjects are largely responsible for this situation. Thanks to their one-sided orientation towards economic goals and welfare raising, they are not able to approach responsibly toward the nature and other non-economic values, which is resulting in the global environmental changes, in destruction of life conditions on the planet, and overall – the state and quality of life on Earth is getting worse. New threats and crises in the world confirm that actual humanity's way of life is unsustainable. Modern civilization threatens earthly nature but also itself and thus the motto of the present and, at the same time, the challenge is sustainability, resp. sustainable development.

This challenge is addressed not only to economists and others in the economic sphere of society, but also to politicians, philosophers, and other experts including those in the educational sector. Among other things, they are expected to be able to prepare graduates adequately to take responsibility for decisions and actions that concern both society and nature, and the environment. And also that graduates will be able to face the current challenges and threats in the world successfully. The task of education and of the educational systems is to contribute to the ensuring sustainable development through education for sustainability (besides the term Education for Sustainable Development, the term Education for Sustainability is used too). Especially of those educational institutions that are focused on preparing future professionals for the economic sector, it is expected that Education for Sustainable Development (ESD) will be also aimed at eco-literacy, which we consider as one of the ways to transform the economy onto the sustainable.

2 Materials and Methods

The study comes from explication of the main causes and reasons behind the need to transform the economy onto the sustainable, and likewise, it determines the framework for developing the sustainable economy and society. It points out that the emergence and persistence of global problems and crises can also be linked in a certain manner to the fact that people, including those acting in the economic sphere, do not sufficiently understand the demand for sustainable development (the professional public has been using the term “sustainable development” and also “sustainability”). This idea of linking the environment and development was settled at the United Nations Conference on Environment and Development in Rio de Janeiro 1992, which started a serie of UN international conferences. Agenda 21 and many other documents were gradually created there (Mravcová, 2018)), which constrain them from being responsibly involved in this. Thus, the stated causes and reasons are becoming the impulses for education and indirectly encouraging them to give an appropriate attention to ESD, whereby at schools that train professionals in the economic sphere of society this education should be focused also on eco-literacy.

In the first part of the paper, we outline the values on which the current society and the economy are based, as well as those on which the sustainable society and a model of sustainable economy should be based. It is concerned to the same values that ESD should focus on, which invoked the need to implement some of the changes especially into the education of future economic experts. These changes, among other things, also involve the education tools for sustainable development and thus also the eco-literacy, to which our paper pays the main attention. We point out how eco-literacy helps to transform the economy onto the sustainable and develop it in accordance with the main objective of sustainability, which means – synchronizing economic development with nature and environmental protection.

3 Transforming the economy onto the sustainable and the need for changes in the education

The current economic development is considered unsustainable especially because in order to maximize human well-being there is an excessive burden on nature. From own point of view, several authors of philosophical, sociological, cultural, and economic studies point to this fact (for example, Meadows et al., 1972; Lipovetsky, 2007; Juvin & Lipovetsky, 2012; Sen, 2002; Šmajš, 2006; Špirko, 1999; Huba, 2004, etc.). According to them, development of the economy in the new global environment has devastating effects on the Earth's ecosystem and especially on its biosphere, which ultimately endangers also human. The current economy, which is the dominant subsystem of culture, can be therefore denoted as anti-natural, insufficiently compatible with the environment.

A paradigm of sustainable development (SD) creates frameworks for the development of sustainable economy and society. This paradigm is considered to be a global development paradigm, but also a project for reconciling economic and social development with the requirement of environmental protection (the best-known definition of SD is represented in the Brundtland Report (World Commission on Environment and Development, 1987)). This paradigm includes a long-term and global perspective that integrates components – the goals that need to be achieved (social progress, effective environmental protection, responsible use of natural resources, and maintaining the high and stable level of economic growth). The SD project shall ensure the harmony among human and nature, among society and its environment, so that we are as close as possible to the ideal of humanism and respect for life and nature in all its forms (an important contribution to ensuring SD represents the

Agenda 21, adopted in 1992 at the Earth Summit in Rio de Janeiro. It represents the philosophy of further existence of humanity and all living organisms on Earth in a harmonious balance (United Nations Sustainable Development, 1992)). The main goal of sustainability is considered to be the synchronizing of economic development with nature and environment protection. But the transformation of economy onto the sustainable is shaping as an important condition also for preventing the deepening of existing global problems, risks, and crises in the world, as well as overall for ensuring a quality life on Earth.

The model of sustainable economy is based on the awareness of the value of nature as a whole, of natural entities, and also of processes – so the values „themselves“ – independently of the consciousness or economic evaluation of natural entities in all spheres and in every human activity. Sustainable economy shall focus on long-term ensuring of quality of life for the present generation as well as for future generations, while maintaining a considerate approach to the nature and to our entire planet. We agree with the opinion of H. Henderson (2001), the representative of the Theoretical School of New Economy, that the understanding of complexity of the global economy requires systemic approach as well as a shift from the economic approach to the multidisciplinary one. This also holds for the process of transformation of the economy onto the sustainable. Such transformation of the economy and ensuring equilibrium between society and nature assumes number of changes also in the education of future economic experts, which requires the involvement of such disciplines as philosophy of education, pedagogy, ethics, and some others into this process. From the point of view of these disciplines, transforming economy onto the sustainable requires offering young people, who are being prepared for practice in this social sphere, such education that would enable to improve the state of the ecosystem and, overall, to ensure the sustainable life on Earth. At the same time, the current paradigm dominating in education is “education for profit“, which does not bring the higher level of education in the society. M. Nussbaum, the author of the book “Not for Profit: Why Democracy Needs the Humanities” (2010), highlights this fact (in this book which is considered to be the current philosophy of education, the author criticizes education „for profit“ limited to three basic skills: reading, writing, and counting while thinking (political, social, and environmental) is considered to be pointless and becomes an obstacle of economic growth (Nussbaum, 2010)). In this book, Nussbaum focuses the critical point of view on the current level of education and overall education in the world, and she states that economic changes do not bring the higher level of education to the society by themselves. She also combats the opinion that the education is primary the tool for economic growth. She argues that economic growth may not automatically lead to the better quality of life. As, for example, the achievements in health care and education only weakly correlate with economic growth of the society. In this context, she justifies the need to devote broader attention to humanities and social sciences which have been gradually disappearing from universities (Nussbaum, 2010). The reason is their inefficiency for economic profit. The paradigm “education for profit“, criticized by Nussbaum, is not being shown as the right one, regarding the negative influences of economics toward social, cultural, ecological, and other conditions in the new global environment where current people live. It is not correct to teach just about the functioning of global economy, increasing of economic growth, and other positive indicators without remembering the consequences of these processes on inhabitants or nature. She indirectly encourages the change in education, which should lead to a more responsible approach to these values and overall, to sustainability.

However, the leading Slovak economist, M. Šikula calls more openly for making changes in education, noting that although some forms of education for sustainability are implemented in our education system, we are meeting the opinion that the shift in environmental thinking and acting of generations is much slower in comparison with the worsening of global conditions on Earth. He sees the cause in missing education for global

environmental sensitivity while environmental experts' thoughts, challenges, and warnings remain unnoticed, often questioned, and ironized. At the same time, he states: „There are no conditions that would force and motivate entrepreneurial subjects, governments, citizens, politicians, and protectionists to work together in a coordinated way to create the preconditions for sustainability of life“ (Šikula, 2003, pp. 260 – 261).

However, the mentioned authors and also some others point to the fact that current education is focused mainly on strengthening the economic rationality of young people, which leads to the efforts to pursue mainly economic interests or to increase technological progress. Unfortunately, other values that are important for people's lives and overall for the preservation of life on Earth, are in the background.

As S. Kumar (2004) states, regarding the hope for the future of humanity and Earth, the revitalization of education has become an urgent task. Kumar looks critically at the contemporary educators for started being „servants“ of the economy, ignoring the catastrophic consequences for people and the planet. Similarly, for example, J. Šmajš emphasizes the need to reform traditional education, as it deepens the current crisis. He is convinced that the new leading idea must be „a gentle rental relationship between culture and Earth“ and, in accordance with this idea, it is necessary to offer the young generation such education that „awakens new geocentrism and recognizes the Earth as the natural home of all living systems, including human“ (Šmajš, 2008, p. 61).

Regarding the accumulating ecological and environmental problems, risks, and crises in the world, threatening the sustainability of life on Earth, where economic subjects are considerably involved, we consider similar incentives for making changes in education as justified.

4 Eco-literacy as component of education for sustainable development

Regarding the need to ensure sustainable development, the need to make changes not only in politics and in other sectors, among them in the education, has long been demonstrated. It is important to continue in these efforts which, besides the above-mentioned challenges, result also from several international documents (for example, from Tbilisi Declaration UNESCO/UNEP, 1978), Agenda 21 (United Nations Sustainable Development, 1992), 2030 Agenda (United Nations, 2015). UNESCO reports also note that education plays an important role in implementing the changes needed to move towards sustainability (see more, for example, in (UNESCO, 1997; UNESCO, 2002; UNESCO, 2017; UNESCO, 2019a; United Nations, 2015, etc.)). The Education for Sustainable Development Program has been developed to ensure the sustainable future. Its implementation in education should provide specific cognitive, socio-emotional, and behavioral educational outcomes that enable individuals to become familiar with the challenges that result from the Sustainable Development Goals (SDGs) and achieve them (ESD is considered as a key instrument to achieve the SDGs (UNESCO, 2017)). „In short, ESD enables all individuals to contribute to achieving the SDGs by equipping them with the knowledge and competencies they need, not only to understand what the SDGs are about, but to engage as informed citizens in bringing about the necessary transformation“ (UNESCO, 2017, p. 8).

We incline to the opinion that the highest priority of education for sustainability should be the raising of public awareness about the need to move towards the sustainable social system and exploring the means of achieving this (Orr, 1999). These are the tasks mainly for politicians and professionals in education. According to UNESCO, education, in line with the challenges of the 21st century, has the duty to promote the right types of values and skills that will lead to sustainable inclusive growth and peaceful coexistence. UNESCO participates in supporting the country's capacity-building for sustainable development education, in developing and expanding actions focused on key

issues solving (climate change, biodiversity, disaster risk reduction, respect for cultural diversity, sustainable urbanization, sustainable lifestyles, etc.) in order to improve an access to quality education about sustainable development at all levels, and in all social contexts help people to develop the knowledge, skills, values and behavior required for sustainable development (UNESCO, 2017). This education should be addressed to all people without distinction. As it is stated, „education for sustainable living is an enterprise that transcends all our differences of race, culture, or class. The Earth is our common home, and creating a sustainable world for our children and for future generations is our common task“ (Capra, 2004, p. 9). As the objectives of this education involve everyone equally, everyone has the same duty at the same time – seek to sustainable development.

One of the tools of ESD is environmental education which goal appears from the Tbilisi Declaration (according to this document, the primary objective of such education is considered to be providing the opportunity to acquire knowledge, values, attitudes, intention, and skills needed to protect and improve the environment. This Declaration connects environmental education with people's responsibility for the state of environment and encourages to its protection (UNESCO/UNEP, 1978)). Its task is to help people understand the natural world, become critical thinkers and active participants who are well aware of how economic and social needs affect ecological relationships in their own communities. Environmental education responds to the increasing need to build environmental awareness and increase the environmental erudition. It is determined as a process of lifelong learning, based on which environmental principles are being acquired. It shall lead to the development of responsibility for preserving and improving the quality of the environment and its components, thereby preventing the emergence of global or local environmental problems (Enviroportál, 2018). In primary and secondary schools, it is understood as an organic part of the whole education and training complex. Its role is to develop mainly the relationships between human and the environment with the emphasis on balanced functioning of social and natural factors.

Besides the environmental education, we meet also some other concepts, types, or tools of education in societies, that are focused on sustainable development. All of them indicate in some way the need to leave the existing model of industrial development of society (an important impulse for the searching of starting points from the crisis of industrial system have been the Romanian Clubs Reports since the year 1972, which point to the need to move away from the industrial model of society's development) and to transition to the alternative sustainable economic model (new alternative economic theories show evidence of that the current world economy is gradually adapting to the changing civilization paradigm, the paradigm of sustainable development. In addition to the above-mentioned Henderson's Theoretical School of New Economy it is, for example, ecological economics, bioeconomics, green economy, and others. These are alternative sustainable models that, together and in interaction with each other, seek to improve the environment on Earth (see more, for example, in Klinec, 2002). These include mainly Sustainable Education, Global Education, Development Education (see, for example, ReliefWeb, 2016; etc.), Global Citizenship Education (see, for example, UNESCO, 2015, UNESCO, 2019b, Mravcová, et al., 2017; Mravcová, et al., 2018; etc.), which in some ways try to implement the global and European dimension into the process of education, and so prepare future school graduates more comprehensively for responsible acting in the new global environment. For that to become active supporters of more peaceful, tolerant, inclusive, safer, and more sustainable society. Equally important concept or tool of ESD is eco-literacy.

The Center for Eco-literacy has been paying attention to the education for sustainability which is based on ecological principles, since its foundation. The two of its members – F. Capra and M. K. Stone (Capra is a co-founder of this Center in California, that is a key organization promoting eco-literacy

within the education) – stated, that we celebrate sustainability which is much richer concept than simple satisfying of material needs, persisting or trying to keep the conditions on the still worsening planet (Capra & Stone, 2010). According to them, in the sustainable community not only economic growth or the competitive advantage is sustainable but the whole network of life, natural and social, from which our long-term survival depends. Truly sustainable community is alive – functioning, vital, evolving, diverse, dynamic. It promotes the health and quality of life of present and future generations, although it lives within its social and natural systems. It recognizes the need for justice as well as physical, emotional, intellectual, cultural, and spiritual nutrition. Sustainable education allows the obtaining of ecological literacy (Capra and Stone do not distinguish between concepts “ecological literacy” and “eco-literacy”, but some other authors specifically define in their studies the framework for environmental literacy, ecological literacy, eco-literacy and compare these frameworks across multiple dimensions of impact, knowledge, skills, and behavior (see more in, for example, McBride et al., 2013), from which the survival of humanity depends in the subsequent decades. More specifically, it is about gaining the ability to understand the basic principles of ecology, values and gain moral strength (McBride et al., 2013). This education is also determined as a change in the culture of education that develops and critically-consciously personify the theory and practice of sustainability. It is covered by the transformation paradigm that evaluates, maintains, and implements human potential in relation to the need to achieve and maintain social, economic, and ecological well-being (Sterling, 2008, p. 22).

Eco-literacy is also considered as a logical component of education for sustainability. For example, Locke et al. consider as tool of ESD also eco-literacy, besides the environmental education. It promotes the development of values, knowledge, skills, and activities that are needed to create the sustainable economy and the whole world in which the environment is maintained, and in which social justice and economic sustainability is supported. It focuses on the interactions of various elements in the environment, including human activity, necessary for the achievement of a self-governing community that shall preserve resources for future generations (Locke et al., 2013). Finally, the fact that sustainable development is the goal of environmental education and also of eco-literacy was agreed by the UN General Assembly in 1987. Until today, UNESCO is promoting ESD with the focus on providing learners with some competencies to achieve the goal – sustainable development (see more in, for example, UNESCO, 2002; UNESCO, 2017).

Capra, who proposed the concept of eco-literacy (however, as it is stated, the idea of literacy which emphasizes the creation of sustainable human communities and in this context it emphasizes the need to fundamentally reconstruct the entire education system, has already been developed by D. W. Orr (see more in Cutter-Mackenzie-Knowles & Smith, 2003). Capra leaned on his works when he introduced the word eco-literacy and described this new educational framework based on the holistic approach to the development of learners Mitchell & Mueller, 2011; Semetsky, 2010; Stanger, 2011), believes that all the wisdom that we need for sustainable life is, in his opinion, encoded in the “language of nature” and the dignified life of human depends on how he/she learns to decipher it. Human should learn to speak the “language of nature” and, at the same time, to imitate natural processes through his thinking and action (Klinec, 2010). Not only according to Capra (1997a; 1997b) but also according to some others (Orr, 1992; Kohák, 1998; Klemow, 1991; Cutter-Mackenzie-Knowles & Smith, 2003; Nečas, 2006; Nichols, 2010; McBride, 2011, etc.), the eco-literacy is linked to capabilities or competences that enable people to understand the relationship of nature and society, to experience the belonging to the nature and to the whole human society. The idea of using resources in such the way as to ensure their accessibility also for future generations is considered as the basis of eco-literacy (McBride et al., 2013).

Capra and Stone are convinced that the eco-literacy must become one of the essential characteristics of politicians, executive workers, and professionals in all spheres, as well as the most important part of education at all levels – from primary and secondary schools to universities, including continual education and training of professionals. As stated, everyone, including economists, managers, etc., should simply be inspired by societies that have been maintained for centuries. These are the nature ecosystems that are the sustainable communities of plants, animals, and organisms (Capra & Stone, 2010). Thus, also the training of professionals for society, and also for the market and economy, must include education for sustainability with the aim of shaping and strengthening their eco-literacy, which is the prerequisite for achieving economic goals in the sustainable way, and also the prerequisite for transforming the economy onto the sustainable. It should be implemented at all school levels, without the exception of area in which their graduates shall operate.

Capra (1997a) is convinced that eco-literacy will form the basis of our economic systems and social institutions, and will also have a profound impact on the education system in the 21st century in which it will play an important role, while he is adding that if it is not, there will be no future of humanity, by what he clearly underlined the importance of eco-literacy for sustainability. In his lecture “Eco-literacy – the challenge for education in the next century”, he said that at the end of 20th century and at the beginning of new millennium, the survival of mankind will depend on our ability to understand ecological principles and, consequently, on that how human will be able to structure human communities in accordance with these principles. According to Capra, the ecological principles can be simply called as “the basic facts of life”, sustainability principles, or community principles while adding that the curriculum of education should also be based on them. The principles of sustainability should be the bearing principles for shaping sustainable learning communities as well as economic systems.

Capra and Wolfe noted that society’s guiding principles provide the framework to eco-literacy that is appropriate for health and forming of sustainable communities. Their aim is to ensure that human activity and technologies do not disrupt the natural capability of life-sustaining ecosystem (see more in Capra 1999; Wolfe, 2001).

As Capra states, eco-literacy must be based on educational process that involves developing learners' skills. Components of the conceptual framework can be summarized as follows: (1) understanding of ecological principles, their acquaintance in nature and thus adoption of the sense of place; (2) incorporating of views from the new concept of learning that emphasize that children are searching for patterns and meanings; (3) applying environmental principles in the education of the learning community, facilitating the emergence of new structures and shared leadership; (4) integrating the curriculum through project-based teaching. At the same time, Capra emphasizes that, thanks to the intellectual grounding in system thinking, “eco-literacy offers a “powerful framework” for system approach to educational system reform” (Capra, 1997a, p. 4).

Understanding of ecological principles and principles of life is the common task for creating sustainable world. It involves all races, sex, or social statuses. This task brings together all people on Earth. Therefore, the education for sustainability has become the necessity. As Kumar states: “Education as usual’ is no longer an option” (Kumar, 2004, p. 3). Regarding the fact that the majority of schools and universities prefer materialistic and consumeristic goals for the promising future of humanity and Earth, we need the urgent renewal of education. The problem, however, consists in the fact that the current educators have become “servants” of the economy and have little regard for its catastrophic consequences for people and the planet. Kumar therefore expresses the hope that this vision of eco-literacy will attract the attention of educators and inspire them to make education relevant to the “age of ecology” (Kumar, 2004).

5 Education for eco-literacy – the path to the sustainable economy

As mentioned above, eco-literacy, like other concepts, types, or tools for sustainable development education, helps to move towards the sustainable society and also to establishment of sustainable economic model. Regarding the need to develop sustainable economy, Capra emphasizes that sustainable society must strive for economic growth and development, but at the same time it must be built in such way that the life, business, economy, physical structures, and technologies do not get into the disagreement with the fundamental ability of nature to preserve life. He states that the economy is today creating a conflict in all areas and so it is needed to propose a new conceptual framework for economic theory and practice which is based on the systemic principles of life. It is systemic thinking that, according to him, forms the intellectual core of eco-literacy, so the conceptual framework enabling combine its various components, respectively competencies (Capra & Jakobsen, 2017). Together with the colleagues at the Center for Eco-literacy they have determined four competences for eco-literacy: (1) head/cognitive – approach issues from a systems perspective, understand fundamental ecological principles (networks, nested systems, cycles, flows, development, dynamic balance), think critically, assess impacts and ethical effects of human actions, envision long-term consequences of decisions; (2) heart/emotional – feel concern, empathy, and respect for other people and living things, appreciate multiple perspectives, commit to equity and justice for all people; (3) hands/active – create and use tools and procedures required by sustainable communities, turn convictions into practical and effective action, assess and adjust uses of energy and resources; (4) spirit/connectional – experience wonder and awe toward nature, feel reverence for the Earth and all living things, feel a strong bond with and deep appreciation of place, feel kinship with the natural world and invoke that feeling in others (see in McBride at al., 2013; Mitchell & Mueller, 2011; Stone, 2010). Thanks to them, human as an effective member of sustainable society should feel the belonging to the nature and society, express respect for people and nature, and have responsible approach to them.

According to Capra, eco-literacy is only the first step towards sustainability. The second step is the so-called “ecological design”. We must apply our ecological knowledge to the fundamental redesign of our technologies and social institutions to overcome the difference among human design and ecologically sustainable nature systems.

Eco-literacy and eco-design are based on ecological networks and material flows. The principles of ecological design reflect the principles of an organization which has been developed by nature to maintain the network of life. Design in such context requires a fundamental shift in our attitude towards the nature – the shift from finding out what we can get from the nature to what we can learn from it. Similarly, it is necessary to move from a product-oriented economy to a 'service and flow' economy, where industrial raw materials and technical components constantly alternate between producers and users (Capra, 2018). This is also the way to transform the economy onto the sustainable. Eco-design assumes the merging of several industries into the single chain, so that the waste of one industry becomes the starting stock for another industry (this principle is based on the new sustainable economic model – *Sustainable Economics*, which belongs among the so-called “green” initiatives. It is the model that replicates nature – waste from one system serves as a livelihood for another – and it is powered by renewable energy sources (Huba, 2003). And also the sustainable economic model – *Circular Economy*, based on the sharing or borrowing things that are reused, repaired, and recycled as far as possible. After the end of products’ life, the materials from which they were made are used to produce new products). However, the step into such a path requires proper evaluation of values, establishment of environmental values and

some other values compatible with the sustainable way of living in economics and also in concrete activities in the economy.

Eco-literacy as well as ecological and environmental literacy of subjects (we are meeting the opinion that the eco-literacy framework shows high degree of similarity especially with environmental literacy, as both concepts contain similar affective knowledge, cognitive skills, and behavioral components (see more in McBride et al., 2013; Roth, 1991; Orr, 1992; and others) in the economy should be based on the value reorientation of human, society, and civilization, thus on the holistic perception of the changed economic reality and respect for laws of the real world and nature. This is an important precondition for transforming the economy onto the sustainable. Until now, the subjects in economy have obviously been guided mainly by economic logic in their activities and thus they preferred economic values. Finally, the values and value orientations of people are considered to be the most important and also the most problematically defined attribute of heading the sustainability (Huba, 2006). (In addition, competences are considered as an important component of ESD and, in particular, of eco-literacy. For example, it is stated that education for eco-literacy is aimed at acquiring individual knowledge and competences needed to overcome environmental problems and to develop sustainable society that does not destroy the ecosystem (Barnes, 2013)).

Capra also emphasizes that in the 21st century the challenge is to change the value system to be compatible with ecological sustainability requirements. Education for sustainability, focused on the eco-literacy of subjects in the economy, must pay the appropriate attention to shaping the value orientation of subjects in the economy, that are deciding about the ways, forms, and level of satisfaction of the needs of people on Earth, about their dissemination and so on. Together with economic values, they must take into account the value of ecosystem and thus responsibly consider the limits of resources drawings, and take responsibility for initiatives that lead to production and profit growth but also to consumption growth. As Capra points out, not only economic growth or development, market share or competitive advantage but the whole "web of life" from which our long-term surviving depends, is sustainable in the sustainable community. Such community is shaped, so that its paths of life, trade, economy, material structures, and technologies do not interfere with the natural ability of nature to preserve life (Capra, 1997b). It is at least required that, thanks to sustainable education focused on eco-literacy, the subjects in economy can correctly understand the values of nature and culture, their relationship as well as the relationship of nature to the subsystems of culture (technology, economy). This is the basic prerequisite or the first stage of ESD heading to eco-literacy. More specifically, in the educational process this can be achieved through philosophy (especially axiology and ontology) and also through ethics. We agree with the opinion that: "Without the ontological dimension of ecological problem, moral attaching, and axiological status of natural entities, the social necessity for processes that need to be done to preserve the environment as an inevitable life need for humans and all living beings on the planet, would not be obvious and probably not feasible" (Smolková, 2000, p. 110). According to J. Šmajš, it is necessary to offer for the current generation such education that enables it to understand the absolute priority of life, the compatibility of culture with nature. In particular, understanding the value of nature as an existential value (according to H. Rolston, the values contained in nature are important to be considered as existential and, at the same time, it is important to understand that the existence of nature as a whole, its lower layers, enables existence of the "humane" layer, which at the same time requires human's responsibility for himself and also for the system as a harmonious entity (for more details see Rolston, 1989) is seen as the starting point or basis on which the eco-literacy of subjects in the economy must lean and thus also their responsible approach to nature, environment, and ultimately to themselves. Consequently, the purpose of this education is that students shall understand the causes of cultural anti-naturality and thus also the anti-naturality of the economy, which is now becoming a categorical imperative of human survival. It

shall awake the new geocentrism and accept Earth as natural home of all living organisms, including human (Šmajš, 2008). Eco-literacy oriented education for sustainable development must include, among other things, knowledge demonstrative that the economy is the subsystem of culture which is dependent on nature. This implies that all values, including those created by human, whether by intentional or unintentional activity, and therefore also the economic values, must be assessed in the light of natural values.

6 Conclusion

Development of economy in the global environment is associated with the threat to nature, environment and ultimately it endangers human, which leads to the need to re-evaluate and complement the education of subjects for the field of economy. Like any education, also this one needs to respond more flexibly to the situation in the new global environment. Although, in modern society the implementation of ESD to the educational process at all levels of schools is not new, it has been pointed out that, especially in the educational institutions that are focused on preparing future experts for the economy there is the need to focus this education on forming eco-literate individuals. This concept, learning tool or component of ESD, have been evidently enforced by new world situation, threatening the individual's, culture's, and civilization's current and future development. Education focused on eco-literacy can be considered as one of the tools of ESD through which it is possible to ensure not only that school graduates sufficiently understand the sustainability demand, but also that they acquire knowledge, skills, and competences to truly reflect that demand in practice.

Although we accept the need to shape eco-literate experts for all areas of society's life, we particularly pointed out the reasons why education for sustainability should focus on eco-literacy especially in those educational institutions that prepare future economic experts. Thanks to that, these individuals can understand not only that the production and consumption in the world continue at the exponential pace, but also that the natural resources, that humanity uses to meet their needs, are growing only very slowly, or even decreasing, which is getting into the conflict with the demand for sustainable development. Regarding the fact that they know the real value of natural entities and environment, there is raising the probability that they can reasonably consider the limits of resources utilization, but also initiatives and practices that lead to the growth in production and profit.

Eco-literacy is one of the preconditions for ensuring economic growth, along with sustainability. Therefore, it represents the important tool for transforming the economy and, consequently, the society onto the sustainable. At the same time, this is one of the main reasons why it is desirable to pay appropriate attention to ESD focused on eco-literacy, especially in those educational institutions that prepare experts for economic field. Thanks to the knowledge, skills, and competences provided by this education, they can consider besides the economic values also the social and environmental ones, as well as their importance for maintaining life on Earth, and consequently engage in developing not only sustainable economy but also the entire society and culture. More specifically, based on the acquired skills they can responsibly approach to the utilization of natural resources, minimize the socio-cultural burden on nature, prevent environmental pollution and thus increase the hope of maintaining ecosystem stability, as well as of establishing the equilibrium between society and nature. At the same time, they are able to engage truly in the new trends of economic thinking, which more specifically means designing and developing new initiatives, concepts, etc. in the economy, that promote social and economic development in accordance with the sustainability demand. In this manner they significantly contribute to the transformation of the economy onto the sustainable, as well as to the development of sustainable society.

But the rationale and emphasis of the importance of implementing eco-literacy oriented education into the education for sustainability is only the first step towards real impletion of the aforementioned visions. In addition, further steps need to be taken, which are related to the implementation of eco-literacy oriented educational process. In this regard, incentive suggestions by politicians, officials in the education sector, and other education experts and teachers themselves are expected, which aim is to transfer mentioned visions into the practice.

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