Strategic Restrictions of Education in the Context of Digital Earth

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Abstract: At the present stage of social development, natural environment is superseded on the global scale by the artificial world, it is technosphere that enlarges its borders. Scientists and philosophers note that a different socio-technogenic model of the world is being formed, the development of which engenders many global problems. To solve these problems in the scope of the Digital Earth educational project, it is necessary to recreate a virtual model of the evolutionary Earth that can reflect social, technosphere and biological evolutionary changes. It is assumed that this model can be used for shaping the mentality of the students through the formation of a holistic view of the anthropogenic world and the processes, taking place in it.Currently, education in the field of Digital Earth is focused on training specialists, who have skills to design and work with geospatial information systems.It does not take into account human problems connected with the difficulties of adaptation and socialization in a man-made modified reality. All this creates strategic restrictions connected with the formation of the project Digital Earth, fending off from using it in full its potential for solving the problems of preserving biosphere life and the world.A scientific and philosophical approach, being friendly comprehensive for understanding the vector of evolutionary socio-technogenic and natural processes, can make good on the existing methodological developments educationally in the Digital Earth project.

1 INTRODUCTION

Over the past three centuries of intensive industrial development, the economic society, with the help of science, technic and technologies, has been actively reconstructing natural processes and creating man-made living conditions. Such living conditions are initiated bycities, where in the third decade of the XXI century the number of inhabitants is more than half of the world's population. The formation of an artificial environment by man-made developing society, i.e. technosphere, which combines a variety of synthesized substances and electromagnetic fields, leading to its dynamic expansion, being the most important reason and factor resulting in continuous displacement of biosphere spaces mainly from the urban environment and the acceleration of its degradation.It may be sufficient to note that only over the last five decades of the accelerating progress of an anthropogenic society (since 1970), more than two-thirds of the planet's biodiversity has faded into obscurity, and rootless soils (remnants of the former soils of the biosphere) make up more than half of urban areas, which is recorded in the reports of international environmental organizations and funds (Almond, Grooten, Petersen, 2020). For thousands of years, the biosphere has played a decisive role in the development of the social world. However, in the course of historical development, the character of mutual relations of humans with the biosphere has gradually changed. After the industrial revolution of the XVIII century the development thrust of civilization is finally defined as anthropogenic and even post-biosphere one. The widespread expansion of the technosphere leads to deep qualitative transformations of positive and negative nature. On the one hand, the standards of living are improving, on the other hand, the new conditions are becoming disastrous for living organisms, and hence for the biosphere life. The combination of social and artificial processes that transform in an anthropogenic

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way the biosphere and its living biological organisms, including humans, vectors the socio-technogenic development of life and the world, spreading integrative socio-technogenic processes, and along with that expediting the growth of genetically modified, cloned forms of new post-biosphere life.Since the end of the last century, when the commercial use of biotechnological plants began, the area of their crops in the world has increased a hundredfold within two decades, reaching 15% of all workable (cultivable) areas. In cities connected by a network of transport and information communications, an anthropogenic envelope of life is being formed, where all social and vital biological processes are concentrated.This socially formed system of life replaces a natural, biosphere system and a living environment typical for agricultural society. Scientists and thinkers talk about the apocalypse of the biosphere and the evolutionary change of life towards the replacement of the natural world with an artificial one, the establishment of integrated socio-technogenic processes, genetically modified organisms on the planet, and finally, a post-biosphere world (Liseev, 2018). This proves a transformational development of life and the world in the current conditions, where the problems of socialization and adaptation of a person to the conditions of a new, artificial megareality, which contradicts the evolutionarily developed human body needs, become relevant. In this regard, the issues (which also have undergone a transformation)of preserving of the biosphere as the basis of life on the whole and a human life in particular are also becoming more acute. The solution of this complex of issues requires a revision of the strategies for the development of the social system and especially socialization, personal development and education as the basis for the formation of ideological guidelines that determine future socio-humane economic activity of humanity and peoples. According to the analysis, modern science and education are not able to correct the miscalculations of social development. An extremely fragmented image of the world is transmitted to the coming generation, which contributes to the consolidation of a worldview based on the priority of the values of apermanent development of the technosphere. Thus, science and education aggravate the problems of socio-technogenic and natural development of the world. On the one hand, drawing a person into a virtual digital reality contributes to his isolation from current reality, breaking ranks with the biosphere world, and as a result, a lack of understanding of its value for life. On the other hand, the application of an interdisciplinary approach in combination with digital technologies makes possibleto design an integral multidimensional model of the evolving Earth, its social and natural objects in the virtual space in order to solve global and local problems of world development in the near future.Such an innovative project can be the project "Digital Earth", which was set up at the end of the last century thanks to the ideology and efforts of A. Gore. (Gore, 1998). Alongside with it, there is still no modeling of the processes of socio-technogenic and natural development of life in its digital space (Dergacheva, 2019). Models of sustainable development generated by Digital Earth technologies do not take into consideration the integrative laws of the world development. At the same time, if such process modeling is implemented, it will be possible to predict and simulate the continuity of future local and global socio-technogenic and natural development on its basis for the purpose of preventing its disastrous incidents.

These models can also be used in education for reconstituting in students' minds an integrated image of the world and the interaction of socio-technogenic and natural processes taking place in it, as well as the directions of the evolution towards superseding the biosphere world with an extremely artificial technosphere, and also for their understanding of the transformational consequences of such a development.The generation of an effective educational strategy for the Digital Earth depends on the quality of modeling social, man-made and natural processes in it, as well as the goals set during the content filling of the project.

Currently, the strategy for the development of education in the field of Digital Earth is aimed at solving the problem of developing students 'and teachers' skills in working with geospatial information systems and their mastering of bare bones in the field of geospatial informatics (Guo, Goodchild, Annoni, 2019). Indeed, these skills are necessary for developing a task-oriented educative process, which should be based on real phenomena and problems of socio-natural development.Meanwhile, the world is changing rapidly as a result of scientific and technogenic progress. Therefore, the introduction of socio-natural processes having changeless nature into digital geospatial space, without either scholarly and philosophical conceptualization or deep understanding of what is happening in the global picture, including a scientific worldview, does not correspond to the time-varying changing characteristics of the modern biophysical behavior of the real Earth. This results in students ' narrow understanding of the processes taking place in the real world, and limits the possibilities of digital education. It is impossible to create a global strategy for the development of education that can catalyze potential capabilities of a person when solving problems caused by transformational technogenic progress, assist individuals in the process of their socialization and adaptation to rapidly changing environmental conditions. However, an adaptation and socialization updating in the process of education at the present stage is badly needed. This necessity is due to the increasing stress caused by the pressure of artificial megareality, which leads to the person's loss of physical and mental health. This is proved by the increase in the number of so-called "diseases of civilization": cardiovascular, oncology, allergic, musculoskeletal system, mental, etc. In the context of these changes, the requirements for social pedagogy as a science that directly studies the processes of socialization and adaptation of a person in the environment are changing (Arnoldov, Grigor'ev, Guryanova, 2014). Therefore, the virtual space of the planet should not just be filled with geospatial data, but on the basis of these data, an evolving model of the biosphere should be recreated in conjunction with social, natural and anthropogenic processes affecting the global picture change.The refresh described above should become the basis for expanding the issues of education in the Digital Earth project, and is used to good advantage by specialists in the field of information technologies.

2 METHODOLOGY

In our research, we rely on a systematic socio-natural approach, the founder of which is V. I. Vernadsky, who created an integral concept of the biosphere (1926) and justified his idea of the transformation of the biosphere into the noosphere. The development of society, according to V. I. Vernadsky's research, led to the fact that the evolution of the biosphere, especially in the industrial era, began to take shape not by the whole set of living organisms but by the collective intelligence of humans, by science and due to the labor of people relying on large-scale machinery and artificial technologies (Vernadsky, 2004). But if the scientist believed that humanity in the process of their social development should improve the state of the natural world, and the noosphere should become the highest and last stage of the biosphere, then in the modern period of social development, through rational and labor, it is technosphere that supplants the biosphere world and life globally. Thus, according to the calculations of Israeli scientists, by 2020 the total mass of the biosphere and the technosphere have become equal. At the same time, the anthropogenic mass doubles every 20 years, and tellingly it will soon significantly exceed the mass of the biosphere (Elhacham, Ben-Uri, Grozowski, 2020). And although we are talking about the "intelligent activity of mankind", which is based on a far from humane attitude to biosphere life, in fact, its destruction. All this indicates the impossibility of using the term "noosphere" in the interpretation given by V. I. Vernadsky, since there is no chance of any improvement of the biosphere at the present stage of spontaneous and ill-considered development of a man-made society. Instead of the noosphere, we have got a global formation of the technosphere (Demidenko, 2015). All this indicates that modern society, being developed in an anthropogenic way through the improvement of science and technology, is qualitatively changing itself and profoundly transforming the entire area of life on the planet. Moreover, it converts vital natural processes of reproduction of biosphere organisms and humans into an artificial cover (technosphere), using biotechnological productions (Demidenko, Dergacheva, 2020). Analyzing the processes of degradation and transformation of biosphere life under the influence of the technosphere at the turn of the XX-XXI centuries, Professor E. S. Demidenko comes to the conclusion that a new evolutionary progress on the planet is taking place as a result of the man-made way of the society development, which claims to replace the natural world created by the biosphere with another evolutionary process. Relying on V. I. Vernadsky, the professor develops a new socio-natural approach in philosophy and science, which (unlike widely spread theories of social development) allows researchers to consider the laws of modern social and natural processes in their interrelation and orientation determined by the anthropogenic society (Demidenko, E. S., 2013). This approach is developed in the works of scientists and philosophers of the scientific and philosophical school of socio-technogenic development of the world, socio-technogenic processes and changes in the evolution of life, including the works of the researchers, who support and develop the views of both scientists (Dergachev, Trifankov, 2019). It is such a scientific and philosophical methodological basis for data analysis that should complete interdisciplinary research in the development and improvement of the Digital Earth project and determine its fundamental goals and objectives. This will allow us to refine and make good on the educational strategy of the Digital Earth, focusing it on solving the problems of preserving the biosphere world and life, as well as finding solutions to the problems of socialization and adaptation of a person in the conditions of changing development. In our study, we rely on the research and development concentrated in the Digital Earth Manual (Guo, Goodchild, Annoni, 2019), and the topics on education discussed at the Digital Earth Summit (2020).

3 RESULTS AND DISCUSSIONS

Despite the fact that throughout history the biosphere has been repeatedly on receiving the end of catastrophes, especially the extinction of life during periods of strong cooling of the planet in the processes of geological and cosmic catastrophes, life has been revived and it has continued to burgeon. Such a ratchet but progressive effect of the biosphere development in philosophy and science is usually called an evolutionary development with special major periods in the evolution of the biosphere being marked as eras. In this regard, we can talk about the world picture as a biosphere picture of the world. In the process of the historical development of society, the biosphere picture of the world undergoes a number of transformations associated with changes in historically global and qualitatively different models of life. The first model is called a biosphere-biological one, which begins with the dawning of biosphere life in it before the appearance of the homo sapiens. The second is a socio-biosphere model, which is formed by individual elements in the biosphere under the influence of the social development of an aggregative society. The third, socio-techno-biosphere one, begins to take shape under the influence of social development with the use of tools and technologies in agricultural society in the natural biosphere environment. The fourth, socio-techno-biological model is formed in the conditions of anthropogenic (industrial and post-industrial) social development and goes beyond the limits of biosphere life, that means the life in the spaces of the dying biosphere (this classification was developed by E. S. Demidenko) (Demidenko, Dergacheva, 2017).

The formation of the fourth model of life begins with the industrial revolution (the end of the XVIII – the first half of the XIX centuries), when on the basis of new scientific and technical productive forces (machine technology), the way of the economic management of social medium changes, a transition to the industrial type of the producing economy takes place, and with it the formation of the industrial mode of production starts. These changes resulted in the situation when by the middle of the twentieth century "techno" (artificial component) becomes one of the predominant components in the socio-natural system. In this regard, we can no longer talk about the evolutionary development of the biosphere, but its revolutionary transformation. In fact, it is an evolution transformation of life from natural to artificial. Such a replacement (substitution) of the model of life has given rise to a number of global problems of the civilization development and a large number of negative transformations leading to the degradation of the biosphere world.

The development of scientific knowledge for centuries has followed the path of the formation of separate sciences, poorly integrated with each other. At the present stage, highly specialized research is also relevant for the further development of science and production. The narrow specialization of scientific knowledge is proved by the increased number of scientific disciplines, there are currently about 8 thousand of them. At the same time, at the stage of post-industrial and anthropogenic development of society, disciplinary boundaries become an obstacle to the further development of high-tech technologies, therefore, along with the deepening of highly specialized knowledge and the preservation of the diversity of disciplines, there is a need for intersectoral and suprasectoral, problem-oriented research, that requires the interaction of individual components of special knowledge and has led to the formation of an interdisciplinary direction of research in science. Such integration of sciences requires the involvement and joint active work of specialists from different fields, takes research beyond the scope of the field under study, promotes the fusion of theoretical, experimental, applied and fundamental knowledge. An illusion of the omnipotence of scientific and technological progress presents itself. V. G. Gorokhov also draws attention to the difficulties of working with complex systems, pointing out the impossibility of accurate predicting its behavior after interacting with it. He emphasizes that this can lead to fundamental changes in the course of the development of all mankind without any chance of returning to the starting point (Gorokhov, 2010). It is still impossible to predict whether scientific and technical innovations will give us a sound, sustainable socio-natural development or just the other way round they bring us closer to the collapse of civilization. At the present stage of development, the life of the world transformed by scientific and technological progress requires of a person boundary delimitation of the intervention of the scientific thinking of a globalizing society into the objects created by it for keeping the balance in the socio-natural system (Liseev, 2018).

Today, we can say for sure that the social and humane sciences determine the models of social reality, while technical sciences determine the technosphere and natural sciences identify the biological reality, leaving beyond our understanding the prospects for the formation of a new, socio-technogenic reality of the development of the world and life by a globalizing society. We are on the verge of changing the scientific picture of the world, which also requires a change of priorities in education. However, education is mainly focused on the study of some scientific disciplines and does not meet modern facts of life. Therefore, there are some difficulties with retransmitting the unity of the natural-scientific and social pictures of the world to the present generation. According to O. E. Baksansky, the modern scientific picture of the world is still far from studying and moulding an integrated socio-technical and natural reality. This is proved by the development of convergent nano -, bio -, information, cognitive and social technologies, when their mutual stable relationships are still being created. Complex technologies outline the priority areas of scientific research, and this allows talking about the development of techno-science, its core is "techno" (in broad terms it means artificial things). Techno-science is not purely field-specific in its nature, and following the technologies of the technosphere, it increasingly becomes interdisciplinary, linking together ideas from various sciences. In this context, a convergent paradigm of scientific knowledge and education is coming into being, combining the processes of their differentiation and integration into a single system (Backsanskij, Dergacheva, 2018). The convergent paradigm of scientific knowledge is at the initial stage of its formation and is poorly reflected in modern education, which creates certain difficulties for its actualizing. Educational methods and programs that would allow launching a learning process focused on integrative interdisciplinary trends necessary for the formation of knowledge for the operation and improvement of systems of various levels and a high degree of integration are still poorly developed. The formation of a convergent paradigm in modern education is a matter of time, since bio - and nanotechnological revolutions, starting now (as a continuation of the scientific and technological revolution of the mid-twentieth century), necessitate the transformation of the forms and content of education in the direction of studying integrative processes. The problem lies in the fact that education is adapting too slowly to changes in the scientific paradigm. Such a slow pace of educational systems leads to problems of training highly qualified specialists who are able to work in the conditions of accelerating technocratic innovations and intensifies the worsening global environmental crisis, resulting inspecialists' unawareness of the problems and patterns of the modern transformational development of the world and life.

The guidelines for the development of science itself are thrown into sharp relief. Will it contribute to the preservation of the natural biosphere world or will it follow the path of replacing it with an artificial one? So far, the second trend remains predominant, which is expressed in obsoleting of humane and value knowledge, responsible for the formation of ideological objectives necessary for the preservation of the biosphere world and the life of the world. If such trends continue to prevail in modern education, there is little hope for overcoming all negative anthropogenic transformations of the world relying on a convergent approach, as they lead to replacing the evolution of life with an artificial model. On the contrary, convergence will become an accelerator of these processes. The need to change priorities in education becomes imperative. (figure 1).

In the conditions of a changing picture of the world from the biosphere to the post-biosphere, it is necessary to focus education (as a subsystem of society) on the systemic perception by the younger generation of the integrated socio-technogenic reality of life in order to implement projects to strengthen and revive biosphere life and adapt people to new, healthy natural and man-made environmental conditions. The need to rectify negative consequences of the transformational development of life and world sets the priorities for the development of education in a number of new ways. Fixation on the study of the general scientific picture of the world as a combination of world views of some sciences does not allow either knowing the world in its evolutionary orientation, nor determining the prospects. Understanding systematic relationships and evolutionary socio-technogenic and natural patterns will contribute to realizing the movement of a holistic view of the world in the minds of students, which makes developing the technosphere safely for the sake of biosphere life possible. Intensive creation of the technosphere and its involvement into the processes of socialization, on the one hand, improves the comfort of human existence, and on the other hand, excessive technospherization of the planet

results in bad human biosphere health and even loss of it. Thus, in industrially developed countries, such as the USA, life expectancy has not increased for the last decade of the XXI century, but, on the contrary, it is decreasing with growing environmental problems and deterioration of food quality, this fact caught the attention of the Nobel Laureate in Economics, Joseph Stiglitz. Besides, there are problems of overweight 4/5 of the American population and the problems of obesity 40% (Stiglitz, 2021).

Present state of education	**Projected state of education, taking into account the socio-technogenic development of the world**
Unchanged scientific world view	Integrative scientific world view
Emphasis on the study of special disciplines	Convergent paradigm of education development
Narrow view of sciences	Scientific and philosophical understanding of sciences
Regarding the biosphere world as a resource base for the development of man-made civilization	Regarding the biosphere world as the basis of life, emphasizing the need for the safe development of the technosphere
Focus on the training of narrow specialists serving the objects of the technosphere	Training of specialists who are able to work with objects of different degrees of integration
Mastering knowledge, abilities, skills in the field of professional activity	In addition to mastering professional skills by a person, the emphasis is on mastering the skills of moulding a methodic life in the anthropogenic transformed environment

Figure 1: Present and projected state of education in conditions of socio-technogenic development of the world.

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Present state of social pedagogy	**Projected state of social pedagogy**
Emphasis on the primary role of the social environment and social relations in the process of socialization and adaptation of the individual	Research onanthropogenic factors affecting the socialization and adaptation of a person in a changing development in addition to the study of social factors
Emphasis on "a person in a state of problem" (providing assistance in cases of clearly identified problems connected with adaptation and socialization, expressed in the form of antisocial behavior)	Emphasis on the need for task-oriented updating of the processes of adaptation and socialization of a person in the conditions of the rapid expansion of the technosphere in order to preserve his natural health, protect the biosphere foundations of life and the world, stimulate safe development of the technosphere
Emphasis on helping people within specialized educational institutions and organizations	Integration of all educational forces of society on the basis of a new practice-oriented strategy for the development of education, the basis of which is social pedagogy
Weak integration of educational institutions (general education schools, universities, technical schools, vocational schools) into the educational process	Development of a set of measures for monitoring, prevention and premonition of social deprivation, taking into account, among other things, the level of anthropogenic environment
Emphasis on eliminating the consequences of social problems that have already arisen, rather than on measures of monitoring, prevention and premonition of antisocial behavior	Introduction into the educational process of health-saving training technologies, physical culture and health-improving technologies and methods for preserving and strengthening biosphere health of a person
Lack of educational work in the field of popularization of the principles of a healthy lifestyle, even among socially well-off population	Teaching the principles of moulding a healthy lifestyle in anthropogenically modified environmental conditions
Lack of educational work in the field of cognitive-behavioral causes of mental and physical health loss in a highly urbanized anthropogenic environment	Education in the field of cognitive-behavioral principles, that allows adapting and socializing in an anthropogenic environment without affecting physical and mental health
Lack of training programs for having effective stress control skills (including anthropogenic ones)	Training the skills of effective stress control (including anthropogenic ones)
Emphasis on socialization and adaptation based on standards and values of an anthropogenic society	Emphasis on socialization and adaptation in process of education in accordance with the principles of a biosphere-oriented worldview
Lack of social and pedagogical support throughout the entire life experience of a person	Social and pedagogical support throughout the entire life experience due to permanent stress caused by rapid technological transformations affecting all areas of human life

Figure 2: The necessity of social pedagogy updating taking into account the socio-technogenic development of the world.

Possible directions of humane correction of education and positive transforming human activity in the man-made world are connected with the construction of models of biosphere and environmental education and upbringing aimed at overcoming the destruction of the biosphere and the apocalypse of biosphere life on the planet's land. The world community connects the transition to a worldview that allows us to enter on a socio-biosphere and environmentally safe path of development with the implementation of the strategy of education for sustainable development. However, this strategy does not take into account many trends of transformational socio-technogenic and natural development and their impact on the ability of adaptation and socialization of a person in an anthropogenically transformed reality.

4 CONCLUSIONS

A number of scientists associate the prospects for the introduction of integrated knowledge about the world and life into the educational process with the project of education in the field of Digital Earth. The educational strategy proposed in the project implies an interdisciplinary approach to the development of education. However, so far, the developers of this project over-simplify the tasks of education in the modern man-made developing world. The main goal of the project is to train specialists having skills in the field of geoinformatics, as well as experience in working with geoinformation systems. Such orientation proves the consolidation of the technocratic fixation on education, the direction of its potential lies in training specialists serving the Digital Earth project, which, in fact, is a logical reflection of the global technospherization of all life processes in the biosphere (Dergacheva, 2019). Rightly so, the developers of the global healthcare management project "Digital Health of the Earth" discuss the necessity of improving the environment as the basis of human health, and the need to develop disease prevention programs (Del Mastro, Monaco, Eremchenko, Nelson, 2020). However, this project caters to the needs neither for the correction of man-made evolutionary processes in order to preserve the biosphere world and life, nor for the problems of adaptation and socialization of a person to the conditions of changing reality.

The tasks of the "Digital Earth" taking into account the projected state of education and social pedagogy in the conditions of socio-technogenic development of the world

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Designing a holistic multidimensional model of the evolving Earth, its social and natural processes based on the "Digital Earth". The use of this model in the educational process for building an integrative worldview in the minds of students

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Compilation, processing and analysis of data concerning the impact of anthropogenic factors on the processes of human socialization and adaptation

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Compilation, processing and analysis of data concerning the impact of anthropogenic factors onphysical and mental health of the population

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Development of information programs for monitoring social health and antropogenic factors affecting it

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Computer modeling of the processes of person’s adaptation and socialization while introducing anthropogenic innovations for finding positive and negative consequences of their practical implementation

Figure 3: Objectives of the Digital Earth project in the conditions of socio-technological development of the world.

Educational strategies neglects the fact that it is impossible to fulfill the tasks properly if you do notrely on social pedagogy in education. Thus, the tasks of social pedagogy include not just the description of environmental factors that affect the formation of a person in society, but also the analisis of laws, operating in them and revealing the mechanisms that influence a person. This approach, according to scientific research «Social pedagogy in Russia», makes social pedagogy not only aimed at adapting and socializing a person to the conditions of a changing environment, but also involves the restructuring and improvement of the environment itself in accordance with the tasks of healthy development of a person (Arnoldov, Grigor'ev, Guryanova, 2014). Human health directly hinges on his lifestyle in man-made modified conditions. Skillfulness in building a lifestyle should also be instilled by socially oriented education programs. All this serves as a proof that there are still unformed links among some projects of the Digital Earth, including many additional factors which are not taken into account when filling the virtual educational space of the Digital Earth with data. As a result, it is necessary to expand the range of tasks for the formation of the "Digital Earth", taking into consideration the problems of transformational socio-technological development of the world (figure 3).

The Digital Earth educational project is still at the stage of its development and improvement. Currently, the Digital Earth project is focused mainly on technical problems such as the need to coordinate data found in various information systems with each other, to develop a common standard system for data conversion, to create a new generation of information platforms for Digital Earth, etc. (Guo, Goodchild, Annoni, 2019). The scientific and philosophical methodological basis that sets fundamental goals for the implementation of the project remains uncertain. All this indicates a lack of understanding of the threat of the transition of the biosphere world to the post-biosphere phase in its development and human problems in the conditions of the anthropogenically modified habitat. This does not allow creating a model of education that will be able to overcome the imbalance in the socio-technological and natural system within the framework of the "Digital Earth". The potential of the "Digital Earth" makes it possible to solve a number of problems facing education in conditions of anthropogenic complication of the world, as well as to enable a move of social pedagogy to a high quality level within the educational process, which in the future will allow building a fundamentally different model of education if comparing to the existing one. This model should be focused not only on the maintenance and creation of technosphere objects, but it should be able to inspect them for the biosphere world life safety and to solve the problems of socialization and adaptation of a person in a rapidly changing progress.

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