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**EDUCATOR TRAINING FOR ECOLOGICAL EDUCATION OF
STUDENTS IN A MULTICULTURAL ENVIRONMENT**

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Abstract

Improving the training of educators requires taking into account the specifics of their future professional activities, which are now closely linked to multiculturalism. The actualization of a multicultural approach to the development of modern education requires special attention to the ethnic and pedagogical foundations of the development of ecological culture of the individual. The significance of the ethnic and pedagogical approach to the development of ecological culture of the personality is due to the philosophical provisions on modern civilizational restructuring, cultural foundations of environmental problems. The need for ethnic pedagogization of environmental education arises from philosophical and cultural concepts that search for the causes of environmental problems in an axiological perspective, formulate ideas about the value attitude to nature, measure the material and spiritual components of culture, comprehend the relationship of rational, utilitarian, economic, pragmatic principles and emotional and moral components of the relationship between Man and Nature. Training of future specialists in the field of education focused on solving the problems of modern society's transition to sustainable development is a priority today. This is based on the need to take into account the optimal environmental trends of cost-effective activities, as well as to optimize the mechanisms for educating students in a multicultural social environment.

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Keywords: Educator training system, ecological education, ecological development of personality, multicultural environment, sustainable development.



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1. Introduction

Globalization affects the development of modern civilization, which puts us in front of new challenges, creates serious dangers and threats, both for the human being and for humanity as a whole. In the current situation, the international community and States are faced with the task of creating a system for regulating globalization processes, neutralizing the negative consequences of neoliberal globalization, and updating and implementing positive integration trends. The need to search for new models of education aimed at educating the personality of a new formation, focused on solving urgent problems of society and the state-problems associated with new civilization challenges-allows us to speak about the relevance of multiculturalism as a new pedagogical paradigm for the XXI century (Gukalenko & Borisenkov, 2016).

As a means of multicultural education, experts consider the multicultural educational space, which is understood as a special socio-pedagogical category aimed at strengthening ties in the system of interaction between education and culture, its various forms in order to prepare young people for life, its adaptation and socialization in a rapidly changing world. Multicultural education and the multicultural educational space are aimed at preserving the diversity of Russian society, have the potential to protect ethnic and national communities in a multi-ethnic Russia, and contribute to the integration of all territorial-economic, political, and national-cultural communities into a single Russian nation.

2. Problem Statement

There is a need to define the pedagogical purpose of multicultural education, which is seen in the treatment school directly to the student's personality, in confidence, to create the most favorable conditions for the discovery and development of abilities of each person, to identify gifted and talented children, the formation of a harmonious personality, generous, good and compassionate person turning to the world culture and spiritual values.

3. Research Questions

The directions of this study are defined by the following research questions:

- 3.1. defining the basic principles for the development of multicultural education,
- 3.2. substantiation of the relationship between multiculturalism and ethno-pedagogy
- 3.3. justification of the importance of training future educators to solve problems of environmental development of the personality
- 3.4. justification of the importance of implementing a multicultural approach in environmental education (education for Sustainable Development SD).

4. Purpose of the Study

Justification for the modernization of methodological conditions in the training of future educators to solve the problems of environmental development of the personality in a multicultural environment.

5. Research Methods

Used by the authors of the article methodology is based on the study of the essence and principles of multiculturalism as a scientific category, on the analysis of trends in the development of multiculturalism in modern pedagogy, on the study of the potential of the concept of sustainable development as an instrument of environmentally oriented pedagogy.

6. Findings

6.1. The essence and principles of multiculturalism as a scientific category

The analysis of modern research shows that the concept of «multiculturalism» is widely used in various fields of knowledge. According to some experts, multiculturalism is a qualitative characteristic of the modern world, where education and culture are inseparable (Borisenkov et al., 2018). The phenomenon of multiculturalism has been the subject of special research in world pedagogy since the 1960s. Currently, experts identify three main approaches that reveal the essence of multiculturalism in education and the socio-cultural sphere:

- a) acculturation approach to the concept of multi-ethnic and bicultural education,
- b) cultural pluralism approach that combines the concepts of «dialogue of cultures», the activity concept and the concept of multi-perspective education,
- c) socio-psychological approach – includes concepts of anti-racist education, «cultural differences», and social learning.

Multiculturalism as a phenomenon of modern reality expresses the most general properties and connections of the phenomena of modern life, society, and education, and thus represents an intersubject category. The authors of the paradigm of multicultural education define as the basic principles of the development of multicultural education the principles of cultural conformity, multiculturalism and polylinguism, integration and cultural integrity, accessibility and openness, and intercultural dialogue.

The principle of conformity to culture of education means that the education corresponds to the diverse palette of culture, facilitates cultural identification, promotes disclosure of individual culture of each child, strengthen the interaction of different cultures through dialogue. This principle defines general approaches and requirements for education. It involves the organization of education as a cultural act for representatives of different nationalities, faiths, races, the formation of ethno-cultural competence, interethnic and intercultural harmony in all spheres of communication and human life.

The principle of multiculturalism and polylinguism reflects the requirements for providing targeted training, education, development and socialization of students at the cognitive, value-motivational and activity-behavioral levels. In Russia, where dozens of peoples live, the Russian language as the basis of interethnic communication is of particular importance for the implementation of this principle. The principle of multiculturalism determines the criteria for the content of multicultural education: the reflection of humanistic ideas, values of different cultures, the principles of freedom and non-violence in the educational material; characteristics of unique ethnic and national distinctive features in the cultures of the peoples of Russia and the world; disclosure of common traditions in the cultures of Russian

peoples that allow them to live in peace and harmony. The principle of multiculturalism is considered in a broad sense that goes beyond the ethnic and national component.

The principle of integration and cultural integrity implies the creation of training courses that combine several subjects from the same and different general education areas, while the interpenetration of subjects brings the content of multicultural education to a qualitatively new level. Multicultural education involves building the content and process of education on a dialogical intercultural basis. The principle of accessibility and openness ensures entry into other cultures, continuity of historical and cultural traditions, and cross-cultural cooperation. Multicultural education presupposes comprehensive mastering of the culture of one's own people, which is an indispensable condition for integration into other cultures. The principle of intercultural dialogue contributes to the formation of perception of cultural differences, contributes to the development of tolerance for the positions and culture of other people, the desire to understand them and show constructiveness and flexibility in behaviour.

Multicultural approach is an important element of professional culture of a specialist and helps to overcome the crisis of modern education, ensures the integration of students into the global knowledge space. The need to master cross-cultural knowledge is determined by the rapid development of IT and the globalization of professional activities. Multicultural approach to education allows taking into account the individual characteristics of students based on the principles of democracy and professionalism (Shipunova & Berezovskaya, 2018; Yan & Khalyapina, 2018). The current trend towards convergence of various sciences allows students to master the connections of their professional field with other fields of knowledge, which expands the competence of specialists. This approach is similar to the pedagogical practice of the period of antiquity, when the basis of education was philosophy, law and theology. The development of technological and humanitarian knowledge by students increases the competitiveness of specialists in the labor market (Trostinskaia et al., 2018).

6.2. Philosophical and historical foundations of the ethno-pedagogic approach

The relationship between the culture of human society and nature was noticed by thinkers in ancient times. In Ancient Greece, an approach to understanding the cultural and ethnic characteristics of its own people in connection with the characteristics of neighboring peoples and their territorial distribution, natural and geographical conditions of living was born. The Roman historian Publius Cornelius Tacitus described the historical and ethnographic characteristics of various peoples in relation to the geographical features of the areas of the Roman Empire, in particular, when considering the customs and culture of Germanic tribes that were dangerous neighbors for the Romans (Feldherr, 2009; Keegan, 2011).

The Roman philosopher Pliny the Elder, in his encyclopedia *Natural History*, provided information about the geography of Europe and Asia, the distribution of various types of flora and fauna, medicines, metal production, and pointed out the existence of links between man, culture and nature (Chambers, 2012; Murphy, 2004).

The ancient Greek historian Herodotus believed that it is possible to understand the history, ethnic characteristics, economic and social relations of the Scythian tribes among themselves and with other peoples, given the geographical location of the Scythian tribes. Rybakov's (2010) archaeological research

confirmed and enriched the historical and geographical descriptions left by Herodotus of the living conditions of the peoples who inhabited Eastern Europe in the first Millennium BC.

Based on the achievements of the Renaissance, the development of philosophical and historical science occurred in the age of Enlightenment. A comprehensive review of the interaction of nature with the anthroposphere was continued. Nature and the impact on it of man began to be considered from a systemic perspective. According to the French philosopher and political scientist Charles Montesquieu, human behavior is determined by a combination of material and ideal factors. The spirit of the people is formed under the influence of natural, climatic, cultural, geographical conditions of life and socio-political relations. The laws of people must conform to the national spirit and the laws of nature (Opitz-Belakhal, 2010).

German thinker Johann Gottfried Herder described the experience of the universal history of culture in his fundamental work «Ideas for the philosophy of human history». He considered the cultural development of mankind in different countries and in different epochs from the perspective of the interrelationships of religion, science and art. He put forward the theory of progressive and cyclical development of culture, theoretically justified the essence and process of forming the national spirit. Like many educators, he believed that the «Golden age» of humanity would come in the future (Gordon, 1991).

German philosopher Immanuel Kant believed that legal norms and laws should be based on moral foundations. According to Kant, the formal expediency of nature is a special case of the universal expediency of the General unity of the surrounding reality (Guyer & Wood, 1992; Rohlf, 2020).

According to the German philosopher Georg Wilhelm Hegel, the main characteristic of such unity is the development of all things on the basis of dialectical laws:

- a) the source of development - the law of unity and struggle of opposites,
- b) structural shifts occur based on the law of quantity-quality transition,
- c) development itself is an iterative process that proceeds under the influence of the law of negation of negation.

Contradiction and negation have a dynamic quality that leads to further development until there is a rational unity of all the components of reality-consciousness, history, philosophy, art, nature and society (Ng, 2020).

In the XX century, Édouard Le Roy, Pierre de Chardin, V.V. Vernadsky and their followers developed the doctrine of the noosphere – a scientific theory that justifies the interaction of society and nature, within which reasonable human activity becomes a determining factor in the development of civilization. A joint effort of scientists from 166 countries under the auspices of the UN has now developed and implemented the concept of sustainable development, which is a dynamic embodiment of the noosphere doctrine (Grishaeva et al., 2018).

A new direction, called ethno-pedagogics, is being actively developed in pedagogical science (Burger, 1968; Volkov, 2020). The Russian ethno-pedagogical school is represented by the works of RAE academician G. N. Volkov and his numerous students. Volkov (2000) considers nature as one of the most important factors of folk pedagogy. Just as Nalchadzhyan (2004) in «Ethno-psychology», so Volkov (2000) in «Ethno-pedagogics» connects a sense of patriotism with nature. Works on theoretical and

practical problems of ethno-pedagogics have recently been published by many scientists from the EU, USA, and Great Britain (Ildiko, 2019; Laster et al., 2020).

6.3. Current status and trends in the development of multiculturalism in modern pedagogy

In general, multicultural education as a new pedagogical paradigm expresses the general properties and connections of the components of the education system in the development of modern theories, methodologies and practices for educating individuals adapted to an information multicultural society. However, multiculturalism should not be interpreted as a mechanical association of various fields of scientific knowledge, technology, innovation and technology. Research carried out in Uruguay has shown that it is wrong to vulgarize the unity of these concepts, since this does not take into account the multiplicity of inter-subject relationships. Scientific and technological progress and information technologies should be seen as key factors in building sustainable socio-economic systems based on a knowledge economy, combined with a strong link to culture. Taking these relationships into account essentially adds a new layer of complexity to people's relationships in the cognitive educational and industrial environment (Bortagaray, 2017).

Multiculturalism is developing in close connection with ethno-pedagogics, which has been developing intensively over the past two decades and has become an independent branch of scientific and pedagogical knowledge (Nezdemkovskaya, 2012). Researchers in the field of ethno-pedagogics have considered the aspects of realizing the potential of ethno-culture in educational organizations of different types and families:

a) pedagogical support for the formation of ethnic identity of students in the multicultural educational environment of the university. For example, the Columbia University of the Caribbean analyzed the cross-cultural competencies of 68 University students studying on-line courses. The survey showed that a significant number of students consider themselves competent in the relationship of different cultures with each other and understand the importance of differences between cultures and respect for their diversity. Thus, students are interested in the problems of multiculturalism and recognize the need for specialists to develop cross-cultural competencies (Cano et al., 2016).

b) in institutions of additional education (Minulina, 2009),

c) solving educational problems by means of ethno-pedagogics (Valeyeva, 2006), including ecological culture (Glazachev et al., 2019; Wagner, 2019). Multiculturalism, including the environmentally motivated behavior of the individual, should not be considered utilitarian, only in educational or industrial aspects. Romanian scientists have studied the relationship between nature and the sense of its value for people on the example of forest pastures. It turned out that rural residents have psychologically determined connections with individual trees that are associated with significant household, consumer, historical and other events in their lives and the lives of their ancestors. Young trees were evaluated, first of all, in terms of their usefulness in the peasant economy. And old trees are valued for their socio-economic status and as historical symbols. Old trees serve as a means of uniting people in their respective territories. It is recommended to take these circumstances into account in landscape design, when understanding the connections between different people, in the process of socio-environmental monitoring and the formation of local policies and development programs of territories (Hartel et al., 2020).

The need for ethno-pedagogization of environmental education follows from philosophical and cultural concepts that explain the causes of environmental problems in an axiological perspective:

- a) concepts of holism, provisions of synergetics, ideas about co-evolution as a co-development of nature and society, about sustainable development, ideas of anthropocosmism, which determine the view of Man and Nature as equal values,
- b) philosophical statements about nature as a cultural value, the leading role of spiritual, emotional and moral components in the dialogue of cultures,
- c) noospheric thinking and spiritual priorities as a condition for the transition of civilization to sustainable development (Orekhova & Lotova, 2015; Subetto, 2018; Wagner, 2012).

Experts in various fields of scientific knowledge recognize the inability to cope with modern environmental problems using only scientific and technical means, because the environmental crisis is generated by the values and norms of technocratic civilization, largely due to the low environmental culture of society. A comprehensive solution to the complex economic, environmental, socio-political and urban problems is considered as the main condition for the transition of mankind to sustainable development. Ecological culture with its ecological values and worldview, norms of life, and ideal of humanistic attitude to nature is the opposite of the consumer aspirations dominating in modern society. It is important to form an ecological culture of the individual as a set of ecologically developed intellectual, emotional, sensory and activity qualities. The ethno-pedagogical approach has a significant potential in the integral, systematic development of all components of the ecological culture of the individual.

However, only in the twentieth century, such sciences as ethno-pedagogics, ethno-psychology, ecopedagogics and ecopsychology began to assert themselves in full force. At the turn of the 60-70s of the XX century, society came to understand that the omnipotence of scientific and technological progress is a myth, since there are natural and environmental restrictions.

In the dynamics of the development of the philosophical and ecological worldview, approaches of the international community to solving environmental problems over the past decades, there is a tendency to rethink the axiological and cultural foundations of interaction with nature, awareness of the cultural roots of the ecological crisis, the re-evaluation of values in the «Man-Nature» system, and a fundamental change in the worldview. The philosophy of nature use, the consumer attitude of man to nature during the scientific and technical revolution, and the position of anthropocentrism, which has dominated for several centuries of intensive industrialization, according to which man was considered as the crown of nature, its lord, master, the highest value of the universe, and nature as the source of human existence, give way to humanistic positions of harmonious interaction with nature.

The timely development of ethno-pedagogical approach to development of ecological culture of the person due to the multiculturalism of modern education and the need to strengthen axiological, educational potential of contents of environmental education and ensure its transition from a focus on the values of consumer culture of nature to the values of harmonious interaction with nature. For modern environmental education, it is relevant to develop content and tools that allow you to form an attitude to nature as a cultural value, to give students an idea of the spiritual and moral foundations of human interaction with the surrounding world.

Gradual change in the philosophical and ecological picture of the world; the shift of priorities in solving environmental problems from technological means of combating anthropogenic pollution to cultural approaches, to the formation of environmental culture, value, spiritual and moral attitude to nature contributes to the fact that every year in various fields of scientific knowledge, attention to the axiological and cultural aspects of environmental development increases, and the tendency to humanization and humanitarization ecological education is strengthened, in the context of which we consider the ethno-pedagogical approach to the development of ecological culture of the individual.

Through research in areas such as ethno-ecology, ethno-pedagogy, ecopsychology, ecopedagogy in the Humanities in the environmental field of modern pedagogy is already some experience of theoretical and methodical development of the problems of integration of ethno - and eco-cultural development of the individual and society. The ecological direction is intensively developing in the field of ethno-psychology and ethno-pedagogics. New intensively developing areas of socio-psychological knowledge are based on socio-ecological philosophy, are components of humanistic-ecological knowledge, the development of which reflects the process of global restructuring of modern civilization from the position of technocratic culture to the position of ecological, from antropo-centrism to the ideals of harmony in the system «Man-Nature».

This trend is expressed in the increased attention of researchers to the cultural foundations of environmental development, expansion and strengthening of socio - ecological theory and practice as an interdisciplinary field of scientific and practical activity. There are two main groups of studies devoted to the ethno-cultural traditions of educating children in the culture of attitude to nature.

First, there are studies on the ethno-pedagogical traditions of environmental education of specific peoples and ethnic groups.

Secondly, this research aimed at the development of a cultural basis for environmental education and supported the potential of folk traditions.

Another trend related to the use of a multicultural approach in education is associated with the total introduction of e-learning.

The spread of E-learning creates an innovative educational environment. With distance learning, the total time spent on learning the course is reduced, but the lack of personal contact between students and the teacher causes difficulties in mastering the materials studied. Acceleration of the development of educational material is due to the use of IT, especially when studying the practical part of the educational material. When studying the theoretical part of the courses, IT cannot completely exclude the participation of the teacher. Distance education is most acceptable for people who are improving their skills, students with disabilities for health reasons. It is necessary to conduct in-depth research of students' involvement in the use of IT and review the content of courses (Bylieva et al., 2019; Sokolova et al., 2018).

6.4. Sustainable development as a field of environmentally oriented pedagogy

A multicultural and environmentally oriented approach to innovative shifts in modern pedagogy forms a portrait of a new person striving for the sustainable development of civilization. The concept of sustainable development (SD) was adopted by the world community in 1992 at the UN world summit on environment and development in Rio de Janeiro. Other representative international forums were

organized under the auspices of the UN, whose agenda included global issues of sustainable development and education for sustainable development (Grishaeva et al., 2018; Grishaeva et al., 2016).

Education not only provides scientific, technical and professional competence, but also provides motivation, motivates the development of a wide range of social relations, as well as the personality of the student. Through education, it is possible to inculcate the values, attitudes, behaviors and lifestyles necessary for a sustainable future. The essence of the SD education strategy is to move from the simple transfer of knowledge and skills necessary for existence in modern society to the readiness to act and live in rapidly changing conditions, to participate in social development planning, to learn to anticipate the consequences of actions taken, including possible consequences in the field of sustainability of natural ecosystems and social structures. Education is a prerequisite for achieving sustainable development and an essential tool for effective governance and the development of democracy.

The imperatives of socially significant educational activities, which are in line with the concept of sustainable development, take priority over traditional decisions based on the rule of man over nature. Taking into account the contradictions between environmental stability and unrestrained anthropogenic activity requires finding compromises in the relations of various stakeholders. The research conducted in the Lower Danube regions using the «quasi-dynamic fuzzy cognitive mapping approach» developed by the authors consisted of successive stages of analysis. The most sensitive issue for many participants in the development of compromise solutions was the productivity of agricultural production in the region, as well as the availability of various co-benefits. It was possible to find agreed solutions that satisfied the various participants in the experiment in the direction of SD implementation (Giordano et al., 2020).

Training specialists in the field of sustainable development is a new direction in pedagogy. Educators from the universities of Maine, New Hampshire and Rhode Island (USA) organized an interdisciplinary group that developed a course to develop competencies necessary for sustainable development. The development of this approach can be considered from the point of view of implementing the principles of multicultural interaction. This has led to educators and students creating innovative educational materials that are environmentally meaningful, conducting fruitful discussions aimed at developing intrapersonal reflection, developing students' leadership skills and a deep understanding of sustainable development issues (Roy et al., 2019).

Finnish researchers studied the problems of branding territories in the context of planning their sustainable development. It turned out that branding and planning for the development of territories are connected with cultural narratives formulated on the basis of local knowledge, traditions and customs, images created in the minds of people that are fixed as symbols of the area and objects located on them. In creating new narratives, the role of art and the use of methods based on it is great. The results obtained can be applied to the formation of tourist facilities and complexes, to increase the attractiveness of places of residence in localities. Thus, you should not limit the application of the SD concept only to the production sphere of activity. Sustainable development should be adopted in the solution of practical problems of human (Grenni et al., 2019).

Currently, more than half of humanity lives in cities that cover no more than 1% of the total land area. The need for SD is most acute in cities that are focal points of environmental, social and other contradictions and problems. Currently, sustainable urban development is seen as a priority for improving

infrastructure, urban transport, and the transition to an eco-economy. An environmentally friendly urban economy is based on the use of an Arsenal of modern information technologies, the construction of a «smart city», the use of the Internet of things (IoT), and the expansion of the use of satellite navigation tools and methods (Grishaeva et al., 2018).

To solve these problems, it is important to take into account the cultural tradition of the population and the socio-political institutions of society. Polish scientists believe that the effectiveness of the creative economy of cities is interconnected with local cultural characteristics. On this basis, the issues of forming a city policy of socio-economic development are considered. Attention is drawn to the analysis of significant public relations in a creative city that contain a cultural component: overcoming the contradictions of the Soviet past and pan-European politics, between the city authorities, the national government and the European Union, the differences between liberal and neoliberal approaches in building relations (Boren et al., 2020). Sustainability of development depends on the implementation of public policies. The authors of the article (Demidova & Mokhorova, 2018) studied the formation of a professional culture of civil servants who are guided by both legal acts and their official duties, as well as social and cultural traditions, experience of cultural and historical development.

7. Conclusion

The study of the spectrum of relevant research shows that the basic principles of the development of multicultural education are the following: the principles of cultural conformity, multiculturalism and polylinguism, integration and cultural integrity, accessibility and openness, and intercultural dialogue. The connection between multiculturalism and ethno-pedagogy is due to the necessity and expediency of using the educational potential of pedagogical tools that are closely related to the cultural characteristics of various ethnic groups, including for achieving the goals of environmental education. There is a need to train educators to organize the educational process in the interests of sustainable development. Taking into account the growing pace of urbanization and the intensity of social multicultural trends, new approaches to environmental education (education for sustainable development) based on multiculturalism should be taken into account. There are three main approaches that reveal the essence of multiculturalism in education and the socio-cultural sphere: a) acculturation approach to the concept of multi-ethnic and bicultural education; b) cultural pluralism approach that combines the concepts of «dialogue of cultures», the activity concept and the concept of multi-perspective education; c) socio-psychological approach – includes concepts of anti-racist education, «cultural differences», and social learning. However, there is a problem of insufficient methodological development of appropriate didactic support for the educational process, which allows using the full potential of multiculturalism to achieve the goals of implementing the concept of sustainable development.

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