

EDUCATORS' WORLDVIEW ETHICS AND THE CHANGE OF TECHNOLOGICAL PARADIGMS (Based on Russian and Mongolian experience)

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***ABSTRACT--**This article highlights the process of a future teacher's worldview and ethics formation while nurturing the human capital of an innovative economy and environment containing new technological paradigms. The system for teacher education is founded on moral and ethical values, and changes in technological paradigms on these bases leads to the formation of new value systems. In the context of these changes, the prospects for the development of a future teacher's worldview and ethics development have been identified. The authors identify two factors that influence the formation of pedagogical ethics: (i) the natural and climatic environment and factors associated with the implementation of ethno-pedagogical principles of education; and (ii) the scientific and technological revolution and related processes of intensive economic innovation development. In a changing technological environment, the worldview of a modern teacher is influenced by their attitude toward nature, society, and different aspects of the surrounding reality, as well as themselves and their own life, which is expressed through beliefs, views, ideals, and value orientations that determine the spiritual and moral spheres of their personality, worldview orientation, consciousness, and thinking. The sociocultural environment and open sociocultural educational space become factors that determine the regional features of historical and modern educational practices. These factors also significantly impact pedagogical processes and the formation of ethics, innovative worldviews, consciousness, and thinking patterns of both the teacher and the people in the educational institution (under his/her professional influence) and, at the appropriate level, in society. The importance of the influence of environmental consciousness and sociocultural factors on the formation of students' new ethical foundations, which are related to the understanding of existing environmental and social problems, is confirmed by the empirical data provided.*

***Keywords--** teacher, ethics, worldview, technological paradigms, environmental consciousness, sociocultural environment, model.*

I. INTRODUCTION

This research is relevant because the globalization processes that occur in the world and affect various spheres of society's life lead to accelerated changes in people's lifestyle, the establishment of a new value

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system, and the reinterpretation of humanity's global goals. Every day, humanity consumes an increasing amount of energy, which leads to changes in technological paradigms (TP) that influence natural geographical and climate conditions. The result of these changes is especially noticeable in Russia: permafrost is thawing, ice cover in the Arctic part of the country is melting, the winters have become warmer and shorter, the average annual temperature in the regions of Russia and in the world is constantly rising, the number of natural disasters and their intensity are increasing, and the ecological environment is deteriorating.

With the change of TPs, the social value system is also undergoing changes, and since the driving force behind the economic development of countries is human capital, people are also forced to adapt in new ways. In these conditions, the role of educators becomes the most important, since they have the power and means to influence the formation of students' personalities, lifestyles, innovative worldviews, consciousness, and thinking. At the same time, the worldview and ethics of the teacher him or herself are a product of the entire history of the nation's development with all its originality and complexity that adjust in accordance with the world's progressive development trends. Later, the younger generation will be able to independently identify progressive directions of development on the basis of the worldview and ethics conveyed to them by the teacher. This aspect determines the importance of a teacher's worldview ethics in the life of students.

Globalization processes pose new challenges for the people of Russia and Mongolia. On the one hand, the people must preserve their identity and all the best that has been developed by the wisdom of generations over the millennia of history, but on the other hand, a transition to post-industrial society with a significant innovative sector of the economy is necessary to make the preservation possible. In these conditions, the role of educators becomes the most important, since they have the power and means to influence the formation of students' personalities, lifestyles, and innovative thinking. Therefore, it is relevant to study the teacher's worldview ethics' formation in the context of an accelerated change in the way of life and the new value system formation due to the shift in technological paradigms.

The authors conducted a comprehensive interdisciplinary study that involved the combination of such academic disciplines as cultural studies, sociology, environmental management, philosophy (ethics), anthropology, pedagogics, psychology, regional studies, innovation management, and economics. In the context of changing technological paradigms, only this approach can reveal the complexity of the estimated results on the state and prospects of the teacher's worldview and ethics development.

The study aims to identify sociocultural and ecological factors that influence the personality, lifestyle, and innovative thinking of Russian and Mongolian students to determine general and specific features in the development of worldview and ethics among students who are to become educators. The authors particularly emphasize the importance of environmental consciousness in the development of new ethical ideas among young people, which is confirmed by the results of a questionnaire completed by teachers and students of Russian universities. The teachers themselves are under the influence of sociocultural and ecological environment, and that fact determines the relevance of the research.

The study is based on the scientific idea that the worldview ethics of the teacher can influence the formation of students' personality, lifestyle, and innovative thinking in a changing technological environment.

The peoples of Russia and Mongolia have long-standing sociocultural ties. The cultures of our neighboring countries have a tangible influence on each other. Yet, each nation has special traditions of developing cultural

characteristics inherent in a teacher. The most valuable experience in developing a teacher's ethics and worldview are the traditions and experience of Yakutia, which have merged into a single sociocultural standard for the development of the Russian teacher's personality and professional qualities, and the experience of Mongolia, which pursues a relatively open policy in the field of culture and education trying to adapt to national conditions.

The research hypothesis is that the formation of the teacher's worldview and ethics in the context of changing technological paradigms can be effective only if the following will be established and identified:

- The interconnection between the teacher's worldview and his/her attitude toward nature, society, different aspects of the surrounding reality, self, and his/her own life;
- The factors that influence the teacher's worldview and ethics formation and the general and specific features in the development of worldview and ethics among students who are to become teachers.

II. LITERATURE REVIEW

At the moment, considerable scientific material has been accumulated in Russian and foreign literature on the issues of changing technological paradigms and the related reevaluation of values (Filin, Schumpeter, Yakovets, Yakushev et al). According to Komar, in terms of the educational philosophy, this is the *Lebensphilosophie* of a person who joins a culture and gains opportunities for the realization of his/her essential potential. Throughout the history of mankind, philosophy and education were interconnected, deeply interdependent, and interpenetrative, therefore, the theory of pedagogy must correspond to a certain philosophical concept, and a teacher reflecting on the general issues of purpose, meaning, and educational trends is obliged to proceed from some philosophical concept.

According to Baranova, Trede, Nikolaeva, Osipova et al, a specialist's (teacher's) worldview is considered as a holistic view on nature, society, and humankind that is expressed in the value system of a person, social group, and society, and acts as a person's general life orientation.

In a broad sense, the worldview and ethics of a teacher have historical sociocultural nature and depend both on the teacher's personality traits and on the level of cultural development, national features, the history of past generations, and others (Bakhtiyarov, Campbell, Giorgett, Ivon et al).

The evolutionary problems of the sociocultural environment, ethnocultural education, and their influence on the formation of the teacher's worldview ethics are reflected in the works of Davaasuren-giin, Borisova, Neustroev, Yarchev et al.

III. MATERIALS AND METHODS

A necessary research condition was a parallel survey in two countries, similar in their sociocultural characteristics, such as Russia and Mongolia. A total of 975 respondents were surveyed. 250 Mongolian respondents included 25 teachers and 175 students. 725 Russian respondents included 325 students of pedagogical universities, 50 teachers from Yakutsk, 75 teachers of Yakut village schools, and 50 teachers from Moscow region. The research was conducted in the form of closed-format questionnaires and interviews. The

latter made it possible to add quality to the quantitative data, so that the results of the study became “live” and illustrative.

The methods of work with respondents were determined by the objectives of the study. The units of the sample interview method were chosen on the basis of the social objects’ features (educational institutions of Russian and Mongolian universities).

The nested case–control study method was chosen because the groups of respondents were very similar in terms of age, type of education, and professional activity. This method provides evidence-based sociological information.

A comparative analysis of the results allowed to conduct a descriptive comparison in order to get a visual representation of the subject, the first close view of it.

IV. RESULTS

In the course of the study, the authors identified methodological foundations and developed a concept of the formation of the modern teacher’s ethics and worldviews in the context of transitioning to new technological paradigms in Russia and Mongolia. The transdisciplinary approach is defined as the foundation for the development of a novel approach to teacher education in modern conditions. It is assumed that this new approach can help achieve fundamentality, a qualitative level of education, versatility, and the knowledge universality of a particular person, and can solve complex problems in the “nature-man-society” system. This is especially relevant in the context of ethnocultural education (Mongolia and Russian national regions), since it is essentially nature-friendly and intersubjective in its essence. During a field expedition to Mongolia and the rural villages of Yakutia, the authors also defined and implemented a structural-functional model for evaluating the influence of the sociocultural and ecological environment on the development of the teacher’s ethics and worldviews. The results of the model’s implementation indicated a logical interdependence between the three factors that influence the formation of the future teacher’s worldview and ethics: (i) sociocultural and educational space, and levels of understanding the worldview and ethical culture, (ii) innovative environmental awareness as the basis for the formation of an active attitude toward the environment, and (iii) professional and ethical culture.

Based on the results of questionnaires, interviews, conversations, and seminars conducted during the field expedition, general and specific features of the sociocultural, environmental, and educational spaces of Russia (Yakutia) and Mongolia were identified. The general features included the prioritization of Eurasian values, and the specific features included traditionalism, paternalism, stability, ethnocultural behavioral stereotypes, and nomadic culture.

In a changing technological environment and ensuing reevaluation of values, the worldview of a modern teacher is influenced by their attitude toward nature, society, and different aspects of the surrounding reality, as well as themselves and their own life, which is expressed through beliefs, views, ideals, and value orientations that determine the spiritual and moral spheres of their personality, worldview orientation, consciousness, and thinking.

On the one hand, the formation of the teacher’s worldview and ethics largely depends on an understanding of how important the environmental consciousness is, and on the other hand, on the intensive development of

innovative production activities (for example, “digital” economy), which provides a holistic understanding of the modern world [17].

28.2% of Russian respondents think that personality formation is influenced by the culture and cultural ties of society, which are interconnected with political and socioeconomic conditions. 48.2% of Russian respondents and 42.3% of Mongolian respondents believe that personality formation is influenced by the interconnection of political, sociocultural, and socioeconomic conditions.

According to the results of a student survey, the formation of the future teacher’s ethical and worldview values is influenced by the family (38%), media (27.6%), and educational organizations (schools — 16.2%, universities — 10.1%). A repeat survey showed some changes in the responses: the influence of the family was still recognized by the majority of respondents (37.9% of Russian and 37.1% of Mongolian respondents), but this time the influence of educational institutions came second (33% and 34%). The influence of the media took third place with 29.1% and 28.9%. This suggests that the educational and sociocultural environment favorably influence the formation and development of students’ ethical views.

The structural-content model positively influenced the components and levels of the future teacher’s ethics and worldview during trials. It was established that the following educational subjects contribute to the development of the students’ worldview in the aspect of the new value system formation:

- A course in *Innovation Processes in Education* (cognitive level)
- Transdisciplinary seminar *Modern Values of Education* (motivational and axiological level)
- Thematic online lectures on ecology (motivational and ecological level)

The authors offer scientific and methodological recommendations on the development of a condition system and activities aimed at formation of the future teacher’s ethics and worldview in a post-industrial society.

V. DISCUSSION

Globalization processes pose new challenges for the people of Russia and Mongolia. On the one hand, the people must preserve their identity and all the best that has been developed by the wisdom of generations over the millennia of history, but on the other hand, a transition to post-industrial society with a significant innovative sector of the economy is necessary to make the preservation possible.

Let’s omit the description of all technological paradigms (TP) and consider the sixth TP (1985–2035), which includes digitalization of the economy, estate urbanization, new medicine industry, and new types of communications. This TP involves improvement of human abilities, increase of investments, design and management of the future, coevolution problems solving, new level of education, artificial intelligence, high humanitarian and environmental technologies (new nature management), and new waste conversion technologies. Judging by the development potential of this paradigm, the economic and social spheres are expected to radically change in the 2020s: the quality of life will improve, the life expectancy will increase, and the nature of work will change.

The convergence of nano, bio, and infocommunication technologies, which form the sixth TP, [5] is aimed at cognitive processes, i.e. together, all these technologies constitute a cognitive science that suggests new rationality and vision, new understanding of the world. If, by 2040, humanity does not shift to the seventh TP, a

severe global crisis related to the provision of energy and resources will be unavoidable [4, p. 21]. In these conditions, the role of educators becomes the most important, since they have the power and means to influence the formation of students' personalities, lifestyles, and innovative thinking.

Sociocultural environment has a great influence on the formation of the teacher's worldview and ethics. Yarychev [7] identifies two levels of sociocultural environment that constantly influence each other and interact: macroenvironment (economic conditions, social relations, and culture) and microenvironment (family, friends, specific institutions and enterprises, place of residence, and landscape). Therefore, various teacher training models can be developed on the base of social, cultural and environmental differences of the Russian regions.

Each nation has universal traditions and cultural features of teacher education that merge into a single sociocultural standard for developing the personality and professional qualities of the teacher. The evolution of personal ethics and worldview in Russia (including Yakutia) is the leading sociocultural activity, a historical process of ethnocultural education development [3]. According to Borisova [2], in the process of ethnocultural education, future teachers master such ethnic values as language, culture, historical and spiritual heritage. Therefore, the preservation and reproduction of the spiritual folk traditions and folk pedagogy can be considered the principles of the teacher's worldview and ethics evolution. The most important milestones of ethnopedagogical education are the opening of Kievan Rus' schools, the reform of school education in the 18-19th centuries, and the revival and development of education at the turn of the 20-21st centuries.

The most significant characteristics that determined the formation and evolution of folk pedagogy were the natural and climatic environment and factors associated with the implementation of ethnopedagogical educational principles. Specific methods of regulating human-environmental relations in Russia (including Yakutia) and Mongolia have been forming in the millennia-long process of social and natural evolution. The natural and geographical conditions of Yakutia and Mongolia are closely related to the traditional lifestyles in these regions; therefore, they influence the development of ethnos and the formation of its ethical values and general worldview. The wealth of folk pedagogy's traditions and experience contributed to the development of the teacher's worldview and ethics [13].

In Yakutia and Mongolia, the formation of the teacher's worldview and ethics is being influenced by very conflicting factors: natural environment, implementation of the ethnopedagogy principles, scientific and technological revolution, and intensive economic development [6]. The qualitative changes that happen during this process are of significant scientific, historical and practical interest for modern pedagogy.

Russian and foreign researchers are unanimous in their opinion that environmental ethics today comes to the fore. It is the core of environmental awareness, the basis, on which each region of Russia forms its ethical and environmental ideas. Currently, ecology and environment ethics have become a major concern for the Russian society. The fragility and vulnerability of the Northern Russian nature and the fragility of the balance in the "man–nature–society" system have become an axiom for public consciousness [13, 9, 14, 10]. The importance of environmental consciousness is manifested in the formation of new ethical ideas related to the understanding of existing environmental problems, rational and careful attitude toward environment, information civilization, realization of the individual's creative potential, the holistic understanding of the modern world, consolidation of social activity, formation of various social environmental movements and, accordingly, a new (innovative) type of worldview [9, 11, 12, 15, 16, 18].

A survey conducted among teachers and students of Russian universities confirms this statement: environmental problems are recognized as significant by 100% of respondents. These problems include the quality of air and drinking water, environmental safety of food production, public health, and others. Respondents are also concerned about global climate change, which indicates an increase in the level of environmental awareness. 82.9% of respondents believe that the worldview and ethics of a modern teacher are influenced by the evolution of society, the political system of the country, the level of moral and cultural development of society, historical and cultural features, and natural and sociocultural environment, as well as the development of science and education. Most Russian and Mongolian students favor the preservation of traditional national lifestyle and believe that it is a unique civilization that lives in unity with nature. Students believe that family, media, and educational organizations that make up the sociocultural environment also influence the teacher's worldview and ethics.

Based on their ethics and worldview, the younger generation determines which trends of development are progressive at this historical stage and which are not. This is a leading aspect that actualizes the importance of the worldview and ethics of the younger generation for social development. For this very reason the worldview and ethics of the younger generation are of great importance for social development.

The cultural and educational environment of an educational institution may change under the professional influence of a teacher. This can lead to changes in the sociocultural environment of the educational institution, and then, possibly, of society. According to Russian respondents, the formation of the teacher's personality is influenced by such social phenomena as understanding of the nature's value (40.1%), attitude toward the political and social life of the country and participation in it (47.4%), and the traditional way of life as a unique civilization (82.9%). According to the respondents of both countries, the sociopolitical worldview of modern youth is an integrative characteristic of the individual. Russian students consider environmental protection and its influence on the formation of the worldview and ethics the main factor in the formation of ethical culture (84%).

The interviewed teachers noted that the system of conditions and measures for the formation of the modern teacher's ethics and worldview can be based on the integration of personality-oriented, competent, cultural, and axiological approaches. The distinctive features of these approaches include modeling the results of education on the basis of the worldview culture of future teachers [8]; focusing on motives and goals of the teacher's personality; broadcasting the society's values including those formed by the modern scientific and technological revolution and the processes of intensive innovation development associated with it, etc.

The structural-content model positively influenced the components and levels of the future teacher's ethics and worldview during trials. It was established that the following educational subjects contribute to the development of the students' worldview in the aspect of a new value system formation:

- A course in *Innovation Processes in Education* (cognitive level)
- Transdisciplinary seminar *Modern Values of Education* (motivational and axiological level)
- Thematic online lectures on ecology (motivational and ecological level)

Therefore, the structure of the worldview as a complex of factors can be represented by the following scheme:

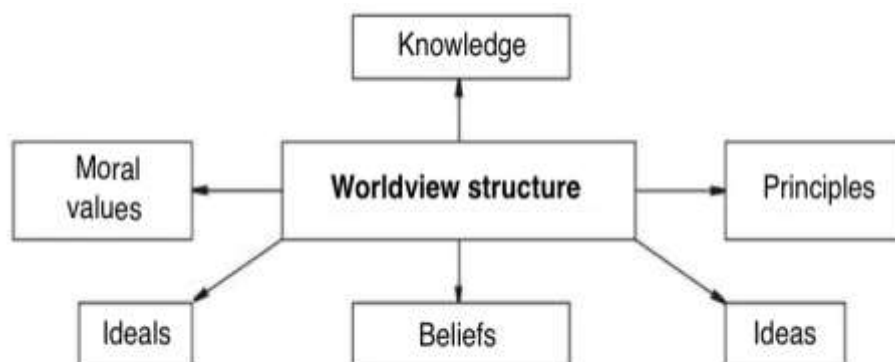


Figure 1: The worldview structure as a complex of factors

The practical significance of the research results is determined by the development of guidelines for the creation and development of a system of conditions and measures for the formation of the ethics and worldview of a teacher in an innovative economy and in an industrial society as a whole, depending on the characteristics of the sociocultural and ecological environment in Russia and Mongolia that affect the reproduction of human capital of high demand and qualifications in these countries. The results of the study will allow to predict trends in the development of the system of training teachers and specialists in accordance with market requirements and educational standards.

VI. CONCLUSION

1. In a changing technological environment, the worldview of a modern teacher is influenced by their attitude toward the different aspects of nature and society. Furthermore, their beliefs, perspectives, and values determine the spiritual and moral spheres of their personality and mindset.

2. The formation of a teacher's ethics is largely influenced by the following factors:

- An understanding of the importance of environmental consciousness. This determines the methods of production and leads to an awareness of existing environmental problems, as well as a cautious attitude toward the environment.

- The scientific and technological revolution as well as intensive and innovative production development that led to a "digital" economy. This contributes to the realization of the individual's creative potential, a holistic understanding of the modern world, and the formation of this type of worldview.

3. The sociocultural environment and educational space are factors that determine the regional characteristics of historical and modern educational practices. These factors impact teacher's pedagogical processes, their manners of thinking, and the formation of their ethics. In turn, a teacher's professional influence affects both society and the sociocultural environment of the educational institution.

4. Teacher's values and beliefs become motives that encourage them to develop and transform their morality. Through the education process, teachers influence the formation of students' ethics, worldviews, and perceptions. This is significant because students are the future human capital of an innovative economy in a new technological environment.

5. Studying how a modern teacher's ethical and environmental worldviews are formed involves characterizing the sociocultural educational space affecting the teacher's personal qualities.

6. While studying the stages of the evolution of society, it was revealed that the sociocultural educational space forms the ethical views of modern teachers. These stages involve traditional economic activities, regulating relations between man and nature, and various cultural, spiritual, and labor traditions.

7. Teachers and the systems, theories, and technologies of education play a major role in the formation of a new value system and in the development of a person's ethical views in the educational process.

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