FORMATION OF STUDENTS SCIENTIFIC WORLDVIEW IN THE CONTEXT OF DIGITALIZATION OF EDUCATION

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Abstract: *This article discusses the comprehensive analysis of the concepts of "worldview," "scientific worldview," and "natural science worldview" in the context of modern pedagogical science in the context of digital education.*

Keywords: *worldview, scientific worldview, natural science worldview, pedagogy, digital education.*

Annotatsiya: *Ushbu maqolada raqamli ta'lim sharoitida zamonaviy pedagogika fani kontekstida "dunyoqarash," "ilmiy dunyoqarash" va "tabiiy-ilmiy dunyoqarash" tushunchalarining kompleks tahlili haqida so'z boradi.*

Kalit so'zlar: *dunyoqarash, ilmiy dunyoqarash, tabiiy-ilmiy dunyoqarash, pedagogika, raqamli ta'lim.*

Аннотация: *В данной статье речь идет о комплексном анализе понятий "мировоззрение", "научное мировоззрение" и "естественнонаучное мировоззрение" в контексте современной педагогической наукаи в условиях цифрового образования.*

Ключевые слова: *мировоззрение, научное мировоззрение, естественнонаучное мировоззрение, педагогика, цифровое обдразование.*

Worldview is the totality of a person's views on the whole world, their place in it, and their attitude towards reality, which determines their beliefs, values, life attitudes, and behavior.

The encyclopedic dictionary defines this concept as "a worldview - a system of generalized views on the objective world and the place of a person in it, a person's attitude towards the surrounding reality and themselves, as well as the basic life positions, ideals, principles of knowledge and activity associated with these views." Or, in this same dictionary, another definition of worldview caught our attention - worldview is a system of culturally conditioned coordinates that connects a person with the surrounding world, determining the meaning of life, the guidelines of activity, and the norms of behavior. [1].

James W. Syre (USA) asserts: "A worldview is a relationship expressed through a narrative or set of beliefs about the nature of truth, a fundamental direction of the heart" [2]. Leo the Apostle, in his work "Worldviews: From Disintegration to Integration," defines a worldview as a cognitive map on which a person must understand the world and their place in it. He identified 6 main elements of worldview, which are ontology, explanation, ethics, praxeology, epistemology, and futurology [3].

The encyclopedic dictionary provides a number of concepts related to the scientific worldview. They are as follows: scientific worldview - a system of views based on modern scientific achievements, logical and objective methods of cognition about nature, society and thinking; scientific worldview - a form of understanding human's place in nature and society, based on empirically confirmed and theoretically substantiated scientific data; scientific worldview - a reflection of reality in the form of logically interconnected theories and concepts formed in the process of knowledge and confirmed in practice [1].

Characteristic features of a scientific worldview - reliance on facts and evidence; reasoning on cause and effect; logical consistency and systematicity; openness to new knowledge, the ability to reassess thoughts; a holistic understanding of nature, society, and man; rationality, criticality, objectivity.

According to foreign scientists, a scientific worldview is a system of views based on scientific method, empirical data, logic, and objectivity, which explains the structure of nature and society through the prism of examined knowledge.

Carl Sagan (USA): The scientific worldview is based on skepticism, empiricism, reversibility, and a deep interest in the cosmos [4].

Stephen Hawking (Great Britain) asserts that the scientific worldview is the only system that allows one to approach objective reality and understand the Universe through equations, models, and testable hypotheses [5].

Thomas Kuhn, in his work The Structure of Scientific Revolutions, argued that a scientific worldview is a paradigm that determines how scientists perceive and interpret the world based on universally recognized scientific models [6].

In scientific and pedagogical literature, the concept of a natural scientific worldview is interpreted as a holistic system of knowledge, views, beliefs, and value orientations that form the scientific perception of nature, the surrounding world, and the place of man in it.

From a philosophical point of view, the natural scientific worldview is based on a positivist worldview based on empirically verified facts, rationalism and logical thinking, the scientific method as a universal way of understanding reality, cosmological integrity - on the perception of nature as a single system.

Philosophical and scientific interpretations of the concept of a natural scientific worldview:

Vernadsky viewed the natural scientific worldview as a way of understanding the "living and non-living existence of nature" based on observations, experiments, and analysis of processes occurring in the material world [7].

According to A.A. Bogdanov, natural scientific knowledge is based on the principles of causality, reproducibility, verifiability, and is based on a model of objective reality [8].

K. Popper (Karl Popper) asserts that natural scientific knowledge develops through the formation and falsification of hypotheses whose strength is tested in empirical reality [9].

In Uzbek pedagogy, A.T.Tajimatov defines the natural scientific worldview as "the basis for the formation of critical and logical thinking, which serves as the basis for rational behavior and understanding of the world" [10].

Having deeply analyzed the scientific works of foreign and domestic scientists, having analyzed a large volume of scientific literature on the concepts of "worldview," "scientific worldview," and "natural scientific worldview," we have developed our own interpretations of these concepts. They are:

A worldview is a holistic, dynamically developing system of knowledge, views, beliefs, and values that determine a person's attitude towards nature, society, and themselves, guiding their behavior, thinking, and activities in various spheres of life.

This definition focuses on the value-semantic and activity-based aspects of worldview, reflecting its role as an internal regulator of the individual's intellectual and behavioral choices. In the context of educational practice, worldview is the basis for the formation of stable cognitive attitudes, a critical attitude to information, and the ability to determine one's own destiny.

A scientific worldview is a system of beliefs, knowledge, and explanatory models formed on the basis of scientific method, logic, and objective analysis, ensuring a rational, evidence-based, and holistic understanding of the surrounding world and its laws of development.

According to the author's interpretation, a scientific worldview is not only a collection of scientific knowledge, but also a way of thinking aimed at analysis, verification of arguments, hypotheses, and critical perception of reality. In educational practice, it manifests itself through the conscious acquisition of theoretical knowledge, understanding the laws of nature, and applying them in life.

Natural scientific worldview - cognitive activity aimed at understanding and explaining natural phenomena using methods of observation, experiment, modeling, and logical analysis, aimed at ensuring the stability of the scientific worldview, mental thinking style, and individual worldview.

These definitions emphasize the educational significance of scientific knowledge, its role in the formation of a natural scientific worldview, the need for the active implementation of digital and interactive technologies in the process of mastering cognitive methods.

Thus, in Uzbek pedagogical science, the theoretical and methodological foundations for studying the formation of a scientific worldview in the context of digitalization have already been formed. However, the problem of improving specialized software for these purposes has not yet been sufficiently studied, and, in our opinion, promising scientific areas requiring further development are: integration models of the digital environment; adapted software solutions for science education; methods of pedagogical support for students in the digital environment.

Thus, the development, theoretical substantiation, and experimental verification of the methodology for improving software that ensures the development of students' scientific worldview is an urgent scientific task of high theoretical and practical significance.

References:

1. Bonk C. J., Graham C. R. The Handbook of Blended Learning: Global Perspectives, Local Designs. – San Francisco: Pfeiffer, Wiley, 2006. – 624 p.
2. Nelson B. C. Exploring the use of individualized, reflective guidance in an educational MUVE // Journal of Science Education and Technology. – 2007. – Vol. 16, No. 1. – P. 83–97.
3.Aerts D., Apostel L., De Moor B., Hellemans S., Maex E., Van Belle H., Van Der Veken J. Worldviews, from Fragmentation towards Integration. – Brussels: VUB Press, 1994.
4. Maslennikova Yu. V., Grebnev S. A. Formirovaniye yestestvennonauchnogo mirovozzreniya kak pedagogicheskaya problema // Monografiya. – [b. m.]: [b. i.], 2013. – S. 75–80.
5. Clark D. B., Sengupta P., Brady C., et al. Disciplinary integration of digital games for science learning // International Journal of STEM Education. – 2015. – Vol. 2, No. 1. – P. 1–21.

6. Graham C. R. Blended learning systems: Definition, current trends, and future directions // Handbook of Blended Learning: Global Perspectives, Local Designs. – San Francisco: Pfeiffer, 2006. – P. 3–21.
7. Vernadskiy V.I. Nauchnaya mыsl kak planetnoye yavleniye. – M.: Nauka, 1991.
8. Bogdanov A.A. Tektologiya: Vseobщaya organizatsionnaya nauka. – M.: Eksmo, 2003.
9. Kuhn T. S. The Essential Tension: Tradition and Innovation in Scientific Research. – Chicago: University of Chicago Press, 1977.
10. Selevko G.K. Sovremennыe obrazovatelnыe texnologii. – M.: Narodnoye obrazovaniye, 2021.