

TECHNOLOGY OF FORMING A SCIENTIFIC AND GENERAL CULTURAL WORLDVIEW IN THE PROCESS OF EDUCATION AND UPBRINGING

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Sharipova Surayyo Burxanovna

Associate professor,

Department of pedagogy and psychology,

Doctor of philosophy in pedagogical sciences (PhD), docent,

Uzbekistan state university of world languages,

Uzbekistan

Abstract

The rapid development of modern society, driven by scientific and technological progress, requires individuals who possess not only professional knowledge but also a well-formed scientific and general cultural worldview. Education and upbringing play a decisive role in shaping such a worldview, enabling learners to understand the world holistically, think critically, and act responsibly. This article explores the concept, structure, and pedagogical technology of forming a scientific and general cultural worldview within the educational process. It analyzes methodological approaches, key components, principles, and practical strategies that contribute to effective implementation in modern educational systems.

Keywords

scientific worldview, cultural worldview, education, upbringing, pedagogical technology, critical thinking, interdisciplinary learning, personal development.

Introduction. In the 21st century, education is no longer limited to the transmission of knowledge. It has become a complex, multidimensional process aimed at developing a harmoniously mature personality. One of the central goals of contemporary education is the formation of a scientific and general cultural worldview – an integrated system of knowledge, values, beliefs, and attitudes that guide an individual’s understanding of reality and behavior within society.

The concept of worldview encompasses a person’s perception of the world, their place in it, and their relationship to nature, society, and culture. A scientific worldview is grounded in evidence-based reasoning, logical thinking, and systematic knowledge, while a general cultural worldview reflects moral values, traditions, ethical norms, and cultural awareness.

The integration of these two dimensions within the educational process is essential for fostering well-rounded individuals capable of adapting to global challenges, engaging in intercultural dialogue, and contributing to sustainable development.

Theoretical foundations of worldview formation. Worldview formation is a long-term and dynamic process influenced by social, cultural, psychological, and educational factors. It begins in early childhood and continues throughout life, but the most intensive stage occurs during formal education.

A scientific worldview is characterized by:

- Understanding of fundamental scientific concepts and laws
- Ability to apply scientific methods in problem-solving
- Critical and analytical thinking
- Openness to new knowledge and innovation

A general cultural worldview includes:

- Awareness of cultural heritage and diversity
- Ethical and moral responsibility
- Respect for traditions and social norms
- Aesthetic appreciation and creativity

The synthesis of these components creates a holistic personality capable of rational thinking and ethical decision-making.

Pedagogical technology: Concept and structure. Pedagogical technology refers to a systematic and purposeful design of the educational process, including methods, tools, and strategies aimed at achieving specific learning outcomes. In the context of worldview formation, pedagogical technology must ensure the integration of knowledge, values, and competencies.

The structure of this technology includes the following elements:

1. Goal-setting

The primary goal is to develop a scientifically grounded and culturally enriched worldview. Specific objectives include fostering critical thinking, moral values, and intercultural competence.

2. Content

selection

Educational content should reflect both scientific knowledge and cultural heritage. Interdisciplinary integration is crucial, as it allows learners to see connections between different fields of knowledge.

3. Methods

and

approaches

Effective methods include:

- Problem-based learning
- Inquiry-based learning

- Project-based activities
- Discussion and debate
- Reflective practices

4. Teaching tools and resources

Modern technologies such as digital platforms, multimedia resources, and virtual simulations enhance the learning experience and support the development of a scientific worldview.

5. Assessment and feedback

Evaluation should measure not only knowledge acquisition but also the development of critical thinking, values, and attitudes.

Principles of effective worldview formation. To ensure the success of this pedagogical technology, several key principles must be followed:

- Systematic and consistent approach

Worldview formation should be integrated across all subjects and educational stages.

- Learner-centeredness

Education must consider individual differences, interests, and needs of students.

- Integration of education and upbringing

Cognitive and moral development should occur simultaneously.

- Cultural relevance

Educational content should reflect national traditions and global cultural values.

- Active learning

Students should actively participate in the learning process rather than passively receive information.

Role of the teacher. The teacher plays a crucial role as a facilitator, mentor, and role model. Their responsibilities include:

- Creating a supportive and inclusive learning environment
- Encouraging curiosity and independent thinking
- Promoting ethical behavior and cultural awareness
- Integrating interdisciplinary knowledge

A teacher's own worldview significantly influences students, making professional development and continuous learning essential.

Practical implementation strategies. The formation of a scientific and general cultural worldview can be effectively implemented through various educational practices:

1. Interdisciplinary lessons

Combining subjects such as science, history, and literature to provide a holistic understanding of concepts.

2. Project-based learning
Engaging students in real-world problems that require scientific analysis and cultural understanding.

3. Cultural activities and events
Organizing exhibitions, festivals, and discussions that promote cultural awareness and appreciation.

4. Use of technology
Incorporating digital tools to simulate scientific phenomena and explore cultural diversity.

5. Community engagement
Encouraging students to participate in social and cultural initiatives.

Challenges and solutions. Despite its importance, the process of worldview formation faces several challenges:

- Fragmentation of knowledge across disciplines
- Lack of integration between education and upbringing
- Insufficient teacher training
- Overemphasis on standardized testing

To address these issues, educational institutions should:

- Promote interdisciplinary curricula
- Provide professional development for teachers
- Implement holistic assessment methods
- Foster collaboration between schools, families, and communities

Conclusion. The formation of a scientific and general cultural worldview is a fundamental objective of modern education. It requires a comprehensive pedagogical approach that integrates knowledge, values, and competencies. By implementing effective educational technologies, educators can develop individuals who are not only knowledgeable but also culturally aware, ethically responsible, and capable of critical thinking.

Such individuals are essential for building a progressive, sustainable, and harmonious society. Therefore, continuous improvement of educational practices and technologies remains a priority for educators and policymakers worldwide.

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