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The Impact Of Modern Natural Sciences On The Development Of Worldview

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Abstract: As we know, education is the most emphasized field in global development. In Uzbekistan, the education system stands out from those of other countries by not only focusing on academic learning but also placing strong emphasis on upbringing. Education is the key to solving many of society's problems. Therefore, numerous efforts are being made in Uzbekistan to improve the quality of knowledge and enhance the thinking abilities of young people.

In particular, based on a presidential decree in 2021, a new subject called "Natural Sciences" (Science) was introduced on a trial basis for grades 1 through 6 in general secondary schools. This innovation had a notably positive impact on students' awareness. It not only contributed to students' acquisition of knowledge, but also helped them better understand the world and the phenomena occurring within it. Moreover, it significantly supported the development of their scientific worldview and critical thinking skills.

It is no coincidence that modern natural science occupies a leading position in human life. Through the study of modern natural sciences, we gain insights into the new dimensions of the world and the scientific foundations of existence. Therefore, it is fair to say that natural science today is being taught as one of the core subjects in schools.

Keywords: Worldview, modern lesson, natural sciences, traditional, non-traditional, philosophy, science, skills, ecology, climate change, global issues, critical thinking, reasoning.

Introduction: Worldview is the set of philosophical, cultural, and scientific perspectives that an individual develops toward the world, society, nature — in short, toward existence as a whole.

Based on its content, worldview can be categorized into mythological worldview, philosophical worldview, religious worldview, and scientific worldview.

It is well known that the scientific worldview incorporates elements of the other types while relying primarily on empirically verified knowledge. The mythological worldview is based on legends and myths; the religious worldview is grounded in religion and sacred texts, and shaped by belief in their authority. In contrast, the scientific worldview examines these beliefs critically, distinguishing between unproven ideas and those supported by empirical evidence.

In the education of the younger generation, it is essential to emphasize the development of a scientific worldview. Such a worldview protects individuals from falling into morally hollow or extremist ideologies and helps form a rational, evidence-based outlook. Throughout history, the advancement of science has always influenced human worldview. In the 21st century, the rapid development of natural sciences — including genetics, quantum physics, artificial intelligence, and astrophysics — is fundamentally transforming human thought.

This article analyzes the influence of modern natural sciences on human consciousness and worldview, based on empirical research.

METHODS

The research was conducted with the participation of primary school students from schools in the Fergana, Andijan, and Namangan regions. Pupils aged 7 to 8 took part in the survey. The study analyzed students' knowledge related to natural sciences, encompassing

subjects such as astronomy, biology, botany, physics, and chemistry.

Through the survey, students were asked questions aimed at exploring their perspectives on their place in the universe, the origin of life, their sense of responsibility toward nature, and the relationship between science and religion. In the data analysis process, analytical and comparative methods were employed to interpret the results.

RESULTS

The analysis revealed that students with scientific knowledge demonstrated greater engagement in explaining the natural foundations of life and nature.

A sense of personal responsibility toward environmental issues and climate change was significantly higher among students with a solid understanding of scientific concepts.

They showed an analytical understanding of the causes and consequences of global changes and rapid climate shifts.

Moreover, they exhibited the ability to apply critical thinking to various situations and demonstrated skills in scientifically interpreting ongoing processes.

DISCUSSION

Results indicate that modern natural sciences have a significant impact not only on individuals of a mature age but also on young children. The advancement of science and technology plays a crucial role in discovering the mysteries of the universe and the human place within it, in finding answers to questions about nature, clarifying abstract concepts, identifying new species of animals and plants, and increasingly shifting the focus in society from the human factor to artificial intelligence.

It would not be an exaggeration to say that these developments come with both positive and challenging aspects. On the positive side, such scientific progress contributes to the development of human consciousness, the enhancement of thinking, and the expansion of intellectual horizons.

Students who receive education through a modern science-based approach have demonstrated higher levels of knowledge and thinking skills compared to those taught with traditional methods. This clearly shows the importance of incorporating natural sciences in a practical and engaging manner to foster critical and analytical thinking in the education system.

Considering the intrinsic link between philosophy and natural sciences, expanding the space for open dialogue and interdisciplinary learning contributes to the formation of a harmonious worldview, one that balances both scientific understanding and moral development in the modern individual.

CONCLUSION

Modern natural sciences – such as astronomy, physics, chemistry, biology, and ecology – are not only sources of scientific knowledge but also serve as one of the primary factors in shaping human worldview. Through these disciplines, individuals gain a deeper understanding of the environment, living and non-living natural phenomena, the universe, and the human body. This broadens their cognitive scope, aids in understanding cause-and-effect relationships, and creates a foundation for making conscious, evidence-based decisions.

Modern natural sciences are based on experimentation and observation, which help develop students' critical thinking, analytical skills, and problem-solving mindsets. In addition, they foster an informed approach to various societal challenges, including technological advancement, environmental issues, and the promotion of a healthy lifestyle.

Thus, the effective integration of modern natural sciences into the educational process plays a crucial role in shaping a scientifically grounded and realistic worldview among the younger generation.

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