THE ANALYSIS OF THE VIEWS OF EASTERN SCHOLARS ON THE DEVELOPMENT OF RESEARCH-CREATIVE SKILLS IN CHILDREN

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Abstract

This article discusses the introduction of preschool children to the surrounding world, the integration of educational and upbringing matters with nature, and in particular, the views and reflections of ancient manuscripts and Eastern scholars regarding the formation of children's research-creative skills. The works of Eastern naturalist scholars related to the field of acquainting with the environment are examined. The significance and importance of these valuable ideas in the current educational field, as well as their role in the development of children, are highlighted.

Keywords: preschool age, nature, environment, creativity, principle, thought, idea, enlightenment, surroundings, research, walking, excursion.

In the proper development and formation of the new generation, nature serves as the primary source for studying the mysteries of events and phenomena occurring in the surrounding world during their coming of age.

The Uzbek people have long had a rich ecological cultural heritage. The most revered, rare, and ancient manuscript «Avesta» is considered the sacred, invaluable manuscript of our people.

The «Avesta» is a work that promotes the way of life of settled populations, the cultivation of crops, urbanization, construction of canals, and the establishment of cities, encouraging the beautification of their homeland. It particularly emphasizes the theoretical and practical aspects of medicine, the preservation of nature, not causing harm to it, protecting the environment, hygiene in life, personal cleanliness and purity, distinguishing between lawful and unlawful, and the health of the entire society. These ideas still retain their value today.

In today's world, where environmental pollution, air contamination, and the discharge of waste into drinking water sources are on the rise, the ecological ideas presented in the «Avesta» hold great theoretical and practical significance.

The «Avesta» gives special attention to maintaining the cleanliness of the earth, water, space, body, clothing, and food. It emphasizes the importance of placing cemeteries far from cities and villages, on high ground. It states, «No crops can be planted on land where a dead body has been for a year.» It provides useful advice on how to preserve the clothes of the deceased, bury them properly, and ensure that a dead animal is removed from sight and buried deep in the ground to prevent the spread of disease. Anyone who followed these practices was

considered «a person destined for paradise.» Zoroastrians say: «The sun, the moon, and the stars all suffer because of the impurity of the earth,» and «The cemetery land returns to its previous pure state only after fifty years.» After that period, planting fruit trees or cultivating crops on such land was allowed.

The «Avesta» also contains useful advice regarding the care and cleanliness of domestic animals such as sheep, goats, cattle, donkeys, horses, camels, etc.

The «Avesta» presents three main methods for maintaining environmental cleanliness and preventing diseases:

1. Covering waste and burying polluted areas with soil, stone, or sand. This method reduces or eliminates harmful microbes.
2. Using fire, heat, or cold to purify. Fire is considered a purifier and a remedy for disasters in the «Avesta.» It can even be used to disinfect clothes.
3. Chemical methods: Using substances such as ash, vinegar, wine, and various herbs (saffron, hyacinth, myrrh, onion, aloe, sandalwood) for purification. Many of these are still used as disinfectants today.

The «Avesta» highly praises various professions, especially agriculture. Farmers are honored as those who practice the noblest profession. During the Zoroastrian period, agriculture in Central Asia developed significantly, with a shift from natural to artificial irrigation systems.

The «Avesta» provides valuable advice about the construction of canals, digging ditches, and transforming barren lands into irrigated fields. It emphasizes washing off salt from the soil and ensuring the fertility of the land. It stresses the importance of preparing fields for sowing, enriching the soil with different kinds of fertilizers, maintaining clean channels and ditches, and ensuring the irrigation systems remain functional to produce abundant harvests. Land that had not been cultivated or worked on for many years was considered the worst land. It is also highlighted that work in the fields should be done sincerely and honestly. Cooperation, justice in the distribution of land, and wise use of water are all important values in the «Avesta.»

Zoroastrians believed that every individual should be engaged in agriculture, horticulture, and other socially useful work. It is stressed that the best seeds should be sown and that fruit-bearing and shade trees should be planted in the land. «Sowing clean seeds at the right time is more valuable than ten thousand prayers or any sacrifice.»

In the Middle Ages, the development of natural science was significantly contributed to by scholars living and working in Central Asia, such as Muhammad Musa al-Khwarizmi, Abu Nasr Farabi, Abu Rayhan Beruni, Abu Ali ibn Sina, Ahmad al-Farganiy, Zahiriddin Muhammad Babur, and Mirzo Ulugbek. Even before the emergence of the science of ecology, they had valuable insights and writings on the balance of nature, the plant and animal world, and the preservation of nature and the environment.

Let’s briefly review the views of our great thinkers on nature and the environment.

Muhammad Musa al-Khwarizmi: The scholar led the construction of an observatory with Al-Farganiy in Baghdad, where they studied the secrets of the universe and the Earth. Under his and Al-Farganiy's leadership, scholars studied over 1,000 stars and created a map of their locations. Al-Khwarizmi's «Surat al-Arz» («The Image of the Earth») accurately described the continents of Africa, Asia, and Europe. His work «Zij» («Astronomy») discusses the mysteries of the universe. Al-Khwarizmi laid the foundation of geography with his book «The Image of the Earth,» where he described the world's continents, oceans, poles, equators, deserts, mountains, lakes, forests, and the plant and animal worlds.

Al-Khwarizmi wrote: «Know that when the 'eyes' of the river grow old, it will face grief and hardship. Do not withhold your kindness from the river.» By «eyes of the river,» he likely referred to the overuse or wastefulness of river water. He emphasized mutual understanding and harmony between humans and nature. In 847, Al-Khwarizmi wrote «Kitab Surat al-Arz,» in which he provided descriptions of the world's oceans, continents, poles, equators, mountains, rivers, lakes, forests, and natural resources, summarizing knowledge of geography, geology, astronomy, and other disciplines.

Abu Nasr Farabi: Born in 873 in the region of Farab (Otror), Farabi was an influential philosopher and polymath. He contributed greatly to various sciences and was known as the «Second Teacher» after Aristotle. His work in natural sciences, particularly his writings on human and animal anatomy, and their similarities, were groundbreaking. His «Kitab al-Hajm wa al-Miqdor» («On Size and Quantity») and «Kitab al-A'zo al-Haywan» («On Animal Organs») explored these areas.

Abu Rayhan Beruni: Beruni's works are rich with information on nature, the environment, and natural resources. He documented the flora and fauna of Central Asia, India, and Afghanistan and provided insights into their useful properties. His works «Mineralogy,» «India,» and «Geodesy» are notable for their comprehensive exploration of the natural world. In his work *"Remnants of Ancient Civilizations"*, Beruni describes the tropical plants and wildlife prevalent in northern Iran. In his *"Kitab as-Saydana-fit-tib"* ("On the Science of Nature"), Beruni provides information about over 250 physicians, herbalists, alchemists, naturalists, historians, philosophers, and travelers.

Beruni's views on natural and artificial selection are also noteworthy. He emphasized that if the Earth were completely covered by the same type of tree or animal, there would be no room for the growth or reproduction of those species, as he explained in his work. In *"On the Science of Nature"*, he also shared information about medicinal plants and their beneficial effects on the human body. Beruni laid the foundation for true scientific naturalism during the Middle Ages, proposing ideas and scientific assumptions that, centuries later, were confirmed by European science. He is considered one of the pioneers of empirical, observational, and experimental scientific thinking in his time.

In his work *"India"*, Beruni analyzed the differences between Muslim and Hindu customs and argued that these differences were due to geographic conditions. Continuing his analysis of the role of geography, he also suggested that the diversity of languages is related to geographical factors. "The reason for the diversity of languages is that people are divided into groups and live far from each other," he argued.

Abu Ali ibn Sina (Avicenna) was the author of over 450 works, but only around 160 have survived. Many of his writings were lost due to the migrations, feudal wars, palace uprisings, and various calamities of his time. While Ibn Sina is primarily known as a physician, medicine was just one of his many scientific fields. Most of his works are written in Arabic, the scientific language of the Near and Middle East during his time, with some written in Persian. His major work, *"Kitab ush-Shifa"* («The Book of Healing»), is a 22-volume treatise covering subjects such as logic, physics, mathematics, and metaphysics.

His comprehensive medical encyclopedia, *"Kitab al-Qanun fit-Tibb"* («The Canon of Medicine»), is divided into five main independent sections, each thoroughly exploring a specific area of medicine. The first book addresses the theoretical foundations of medicine, its subject, objectives, divisions, methods, causes of diseases, symptoms, ways of maintaining health, and anatomy. It also provides teachings on hygiene, which would later be known as the science of health.

Another of Ibn Sina's famous works is *"The Laws of Medicine"*, which also consists of five books. These books describe the structure and function of human organs, various diseases, their causes, simple and complex medicines, their preparation, and their effects on the body. Ibn Sina also highlighted the fact that some diseases, such as smallpox, plague, and tuberculosis, are caused by microorganisms. He emphasized the importance of proper nutrition and physical conditioning for maintaining good health. Additionally, he believed that the Earth slowly changes, with seas and rivers eventually being replaced by dry land.

In his *"Book of Healing"*, Ibn Sina elaborated on his philosophical and medical views, addressing concepts such as matter, space, time, shape, movement, and existence. He also discussed various fields such as mathematics, chemistry, botany, ecology, geology, astronomy, and psychology. Ibn Sina's thoughts on the formation of mountains, the gradual transformation of the Earth's surface, and phenomena like earthquakes contributed significantly to the development of geology.

Ahmad al-Fargani, a great astronomer, mathematician, and geographer from Central Asia, also made important contributions. He is known for eight surviving works, although some sources indicate that he wrote ten. His most famous works include *"The Fundamentals of Astronomy"* («The Book of Celestial Movements and General Astronomy») and *"On the Making of the Astrolabe"* («The Book on the Art of Crafting the Astrolabe»). Al-Fargani argued that the heavens move around two fixed poles at the north and south ends, revolving in a circular

motion with all the stars moving within the celestial sphere. This reflected his scientific approach to understanding the universe.

In conclusion, the issue of developing research and creative skills related to nature in children has been a concern not only in modern education but also in ancient times. Thinkers like Beruni, Ibn Sina, and al-Fargani emphasized the importance of harmonizing education with nature, a concept that remains highly relevant today. Therefore, it is crucial to teach future generations these ideas and foster their research and creative abilities concerning nature.

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