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PEDAGOGICAL METHODS – THEORETICAL ANALYSIS OF TEACHING BASED ON THE TEACHINGS OF ABU ALI IBN SINO

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Abstract:

This article describes the use of the teachings and ideas created by the thinker Abu Ali ibn Sino in biology lessons and the clarification and analysis of the pedagogical environment, educational tools, the introduction of effective mechanisms and the improvement of teaching methods. The analysis of research on the assimilation of the teachings of Abu Ali ibn Sino in the content of biology textbooks of general secondary schools and its results are noted. Also, the problems related to the methodology of teaching subjects and the results of research conducted by a number of scientists on this problem, their content and essence are highlighted.

Keywords: biology, lessons, thinker Abu Ali ibn Sina, teachings, ideas, pedagogical environment, tools, analysis, teaching methodology.

INTRODUCTION. The flow of information in the world is covering a wide range. The tasks of the pedagogical field include their scientific, theoretical and practical analysis, processing, generalization, rapid reception, summarization and identification of ways to deliver information to students. Currently, issues related to improving the functioning of the education system and the implementation of advanced international experiences are considered relevant. It is necessary to develop measures to develop the knowledge of schoolchildren about biology, to ensure the formation of a healthy lifestyle among them. The use of the teachings and ideas created by the thinker Abu Ali ibn Sina in biology lessons, and the clarification of the pedagogical environment, its tools, the introduction of effective mechanisms of analysis and improvement of teaching methods are among the urgent problems. According to the analysis of the research, the problems related to the methodology of teaching subjects are a scientific and research problem within the framework of various disciplines. In the research works conducted by a number of scientists on this problem, the content and essence of the methodology of teaching subjects have been explained. In particular, according to the opinion of pedagogical scientists M.Kh.Tokhtakhojayeva, S.Ashirboyev, J.Hasanboyev, S.Nishonova, S.Madiyarova, A.Qoldibekova, M.Usmonboyeva and N.Nishonova, educational methodology is a branch of pedagogical science that embodies a private didactics or a private theory of education, and its tasks are to reveal the legal connections between them in the process of studying the phenomenon of teaching in the subject of study, it consists in establishing the standard of requirements for the educational activity of the teacher and the cognitive activity of the student based on the recognized laws. Methodology (as a science) is the study of the specific features of teaching specific subjects [3].

LITERATURE REVIEW. In Uzbekistan, the spiritual and enlightening teachings of Central Asian scholars, a number of their works have been translated by prominent orientalists, including A. Irisov, U.I.Karimov, among whom the research of academician U.I.Karimov, known as the main researcher and translator of the scientific heritage of Abu Ali ibn Sina, is of particular importance. During the analysis, there are a number of sources that indicate that the scientist prepared a full edition of Ibn Sina's "Canon of Medicine" in Uzbek and Russian and participated in the translation. According to the orientalist A. Irisov, Ibn Sina "only a person who is attentive to his own personality can decorate himself with moral virtues. Immorality is not only neglect of family and society, but also self-respect, lack of self-respect. Virtues are achieved by knowing how to acquire them" [4]. According to Ibn Sina, although ethics belongs to the practical part of philosophy, it does not come true by itself, but depends on the control of reason.
M.Khairullayev, J.Tulenov, among the outstanding scientists who made a great contribution to the development of social sciences, in particular philosophy, in Uzbekistan, studied the heritage of

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Central Asian thinkers and comprehensively demonstrated to the broad scientific community that we are the legitimate heirs of a high cultural heritage. In particular, M.Khairullayev noted that in the philosophical views of Ibn Sina, the main place is occupied by the study of man and nature not separately, but taking into account their close connection, the study of the mental qualities, abilities of a person and the desire to reveal his qualities. He also notes that ethics is also a part of philosophy, and Ibn Sina, like thinkers of all times, worked effectively in this area [6].

The life and work of Central Asian scholars, the hypotheses put forward in various fields of scientific knowledge, their scientific solutions, the place and role of spiritual and educational heritage in human civilization, its impact on historical development, and its significance today have also been studied by pedagogical scientists. In particular, the studies of E.O.Turdikulov, H.Homidov, and M.M.Aliqulova reflect the spiritual and educational views of Central Asian scholars, in particular, the place of the existing world in human life, its significance in organizing social relations, the attitude of man to existence and nature, as well as the environment, important geographical objects, their characteristics, the interconnectedness of elements in existence, natural phenomena, their state in the eras in which they lived, and other issues.

In recent years, a group of researchers and scientists have conducted research within the framework of improving the methods of teaching biology in educational institutions. For example, G.S.Ergasheva, who conducted research on improving the methods of using interactive software in biology education, and L.M.Karaxonova and Sh.B.Asanova, who studied the methodological features of using electronic educational resources in teaching biology in general secondary schools, paid attention to the improvement of methods such as the use of electronic educational resources, an integrative approach to the formation of basic and specific competencies in science in students in teaching biology.

A specific aspect of the research work is the identification of pedagogical methodologies for using the heritage and teachings of the Central Asian scientist Abu Ali ibn Sino in teaching biology to students in grades 10-11 of general secondary schools. In particular, it is necessary to explain the concept of "methodology". Methodology is a set of methods and techniques necessary to perform a certain task. In a number of explanatory dictionaries, it is expressed as "Methodology (Greek methodike) is a set of methods and ways to carry out a specific task in a strict sequence (algorithmic nature), a previously established plan (rule), a system, a set of methods and ways to carry out a task in a purposeful manner" [3].

According to the Russian pedagogical scientist A.M.Stolyarenko, the methodology of teaching academic subjects is a set of methods, methodological methods, tools and organizational measures related to solving certain pedagogical tasks. G.M.Kodzhaspirova and A.Yu. Kodzhaspirov explained the methodology as follows: Teaching methodology is specific methods, techniques and techniques for implementing pedagogical activities.

As a result of the above ideas and the analysis of the research conducted to date, the following author's definition of the concept of methodology was given. "Methodology means the rational organization of the methodology of teaching academic subjects, the correct determination of the forms of educational and educational activities, the ability to select methods and tools in accordance with the purpose, and the effective use of educational technologies" [5].

MAIN PART. As a result of analytical work on the incorporation of the teachings of Abu Ali ibn Sino into the content of biology textbooks of general secondary schools, the following current situation was identified: 11th grade Biology textbook (Authors: A.G'afurov, A.Abdukarimov, J.Tolipova, O.Ishankulov, M.Umaralieva, I.Abdurakhmonova. – Tashkent: «SHARK», 2018. – 240 p.) [2]. § 2. Development of ecology, sections and methods – on page 9 of the textbook: Ibn Sino's works provide information about the structure of the Earth, medicinal plants, and animal habitats.

10th grade Biology textbook (Compilers: K.Saparov, I.Azimov, M.Umaraliyeva, U.Rakhmatov, Z.Tillayeva, I.Abdurakhmanova, E.Ochilov, S.Khaytbayeva, L.Uralova. – T.: Republic Education Center, 2022. – 200 p.) [1]. The content of the textbook does not include the teachings of Abu Ali ibn Sino. As a result of the analysis of the content of biology textbooks, a number of proposals and recommendations were developed on the use of the teachings of Abu Ali ibn Sino in the content of biology textbooks. The implementation of integrated education and upbringing based on the teachings of Abu Ali ibn Sino in biology lessons of general secondary schools creates a basis for the formation of students as individuals and subjects, their mental development, and the growth of their level of education. The developed model of goal setting, process organization, and result determination

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in the study of improving the methodology of teaching biology based on the teachings of Abu Ali ibn Sino combines the main foundations and factors.

This model is a study of the problem of increasing the effectiveness of the educational process, achieving educational results step by step while focusing on a common current goal, and achieving a holistic goal using the opportunity to conduct and control activities in the pedagogical process as a whole. Based on the model, didactic structures were developed for acquiring knowledge, skills and qualifications in the educational process, increasing the effectiveness of practical activities, and improving the methodology of teaching biology based on the teachings of Abu Ali ibn Sino [5].

The pedagogical conditions for teaching biological sciences based on the teachings of the thinker Abu Ali ibn Sina, identifying and analyzing a wide range of problems in the learning process, and theoretically enriching them based on the teachings of the great thinker Abu Ali ibn Sina, who brought the culture of the peoples of Central Asia to the forefront of world culture in the Middle Ages, were studied. Scientific ideas are expressed on the fact that teaching students in biology lessons, while preserving values, traditions, history, our great spiritual and material, cultural heritage, is conservative, but effective and practical in the economic and social development of society, using the scientific heritage and teachings of Abu Ali ibn Sina.

Regularly referring to the works of Abu Ali ibn Sina in improving the content of biology lessons in general secondary schools is of incomparable practical importance in the development of this science. The role of the education and upbringing system and public organizations in developing the knowledge of students and young people based on our national spirituality and educational values, ensuring their correct and full education, is important.

CONCLUSION. It is necessary to provide all the opportunities and educational tools created for the development of the younger generation in our country. In particular, they are: Firstly: an approach based on an integrative (humanities, geography, biology) education in conveying to students the views of the thinker on the topics of biology lessons on nature and human health gives positive results.

Secondly, in the process of providing students with knowledge about biology, it is appropriate to give examples of works that are important for nature conservation, flora and fauna, and human health at a new stage of development in our country. Thirdly, showing and demonstrating examples of the works of Abu Ali ibn Sino to students in biology lessons, using visual materials, posters, educational and documentary films about the scientist's work will increase students' interest in biology lessons.

Fourth, emphasizing the worldwide popularity of Abu Ali ibn Sina's "Canons of Medicine" and its use as a textbook in leading universities around the world will strengthen students' sense of patriotism and pride, and encourage them to engage in science in the future. Fifth, explaining to students that human health is important for them, that is, one of the main factors ensuring their activity in socio-economic life, based on the thoughts of the great thinker Abu Ali ibn Sina, will increase their interest in biology and improve students' mastery of the subject.

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