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The creative legacy of Ibn Sina (Avicenna) and his scientific and pedagogical ideas

Introduction. The study of Avicenna’s pedagogical heritage is relevant since it allows to form a scientific notation of the progressive experience level of teaching and upbringing in the conditions of the early Middle Ages, during the culture explosion in the East.

The purpose of this particular article is to consider Avicenna’s creative heritage and to give an overview of his scientific and pedagogical ideas.

Methods and materials. Avicenna’s works reflecting his pedagogical ideas, as well as the works of modern teachers, historians and philosophers were used while working with this article. Research methods: analysis, synthesis and historical and pedagogical interpretation of the data contained in the sources; systematization and generalization of materials obtained as a result of the study of open Internet sources and modern scientific academic literature.

Results. A lot of verdicts expressed by Ibn Sina in his various works are really striking in the matter of their depth, humanity, and correct approach to solving a number of educational issues. Ibn Sina demonstrates a real understanding of the children’s nature, not only as a physician, but also as a teacher. Also, he gives subtle and reasonable pieces of advice about education. At the same time, the scientist pays serious attention to the personality of the educator involved in the formation of the character of the future citizen. Avicenna's pedagogical ideas were very progressive and could not be implemented in the conditions of his time, but they are successfully implemented today in many world countries.

Discussion and conclusion. Avicenna not only generalized the knowledge accumulated before his time, but also developed them in many ways, enriching them with the results of the thorough observations and researches, brought them into a single coherent system. The realization of the plans of the great scientist is the activity of numerous educational institutions engaged in the study of the physical education problems, represented in the younger generation, as well as the role of physical education and sports in the prevention of various diseases, etc.

Keywords: Ibn Sina, Avicenna, scientific point of view, scientific and pedagogical ideas, child upbringing, educational goals

For Reference:
Introduction

After the COVID-19 pandemic outbreak, the interest in the most famous and influential medieval Persian scientist, philosopher and doctor Avicenna significantly increased. His works have played a key role in the development of medical literature and educational programs and have become a cornerstone in the history of medicine. Nowadays, Muslims are proud to remind the world that Avicenna’s heritage helps while the fight against the pandemic around the world. They point out that the very idea of quarantine is rooted in the Avicenna’s scientific works, as it was he who indicated the need to control the “spread of diseases” in his medical encyclopedia “The Canon of Medicine”, originally published in 1025.

The name of Abu Ali Ibn Sina (Avicenna) has firmly entered the history of world culture. He belongs to the number of outstanding scientists-encyclopedists of the Middle Ages. His scientific heritage is very extensive and covers various branches of knowledge: philosophy, medicine, mathematics, astronomy, botany, geology, linguistics, poetry, music. However, the fact that Avicenna’s creative legacy was also devoted to the issues of upbringing and education of the younger generation is left out of account.

Therefore, the attempt was made to highlight Ibn Sina as a philosopher of education, who introduced great ideas and had a great influence on education in theoretical and practical terms.

Ibn Sina’s talent was most clearly revealed in the field of philosophy and medicine. Avicenna’s philosophical works – “The Book of Scientific Knowledge”, “Remarks and Admonitions”, “The Book of Salvation”, as well as the multivolume work “The Book of Healing” have left an indelible mark in the history of philosophy and logic. His formulation and solution of philosophical problems show that he was a deeply original thinker. Developing the philosophical views of Aristotle and Plato’s ideas, using the works of Al-Farabi and other thinkers of the East, Ibn Sina summarized the achievements of previous philosophical thought and scientific data of his era, significantly strengthening the spontaneous materialistic and natural scientific tendencies of his predecessors.

As academician P. N. Fedoseev is fair to say, “taking into account his free-thinking, it is necessary to remark that Ibn Sina was the son of his era with a predominance of religious ideology. In particular, the great thinker was convinced that the full deepening of knowledge would help to find a real path to God” [1, p. 4].

Avicenna exerted a great influence on pedagogical thought from ancient to modern times, as much one as Plato, Aristotle, Thomas Aquinas and others. He also influenced the educational practice, which may be seen from his works on medicine, science, mathematics, linguistics, as well as poetry. In addition, Ibn Sina is a living illustration of the meeting of philosophy and education, where both the philosopher and the teacher deal with similar problems: truth, goodness, the nature of the world and man, etc. Obviously, he had his own views on education, and his philosophy of education was transformed into a theory of education, which he practiced himself.
Biographical information

In literature and other sources, there is a fairly large amount of information about the life and creative heritage of Avicenna. According to ancient sources, about 470 works ranging from one sheet to 20 volumes in the 29 fields of knowledge are attributed to him, among those 23 were written in Persian, others in Farsi and Arabic – the language of science and literature of that time. Many of them have been lost forever, and only 274 have survived to this day.

According to professor U.I. Karimov, the most complete and sufficient bibliographic source was the work of the Iranian scientist Jahji Mahdavi (1954) “Catalog of manuscripts of Avicenna’s works”, which included 242 works of Avicenna divided into two groups: the first group included works undoubtedly written by Avicenna; the second group covered works attributed to Avicenna or representing parts of individual works of the scientist.

Avicenna summarized the scientific achievements of his time and developed them in encyclopedic works on philosophy, logic, mathematics, astronomy, physics, mineralogy, jurisprudence, linguistics and musicology. However, Avicenna gained the greatest fame as a doctor, pharmacist and scientist.

Ibn Sina (known in the West as Avicenna), was born in 980 in Afshan near Bukhara. A.V. Sagadeev notes that “barely enlightened in the sciences, he became a mature scientist and doctor, and soon after that he set off on a journey and was forced to wander through the cities of Central Asia and Iran almost to the end of his days” [2].

The lands through which his path ran were ruled by local dynasties, only formally subordinate to the Caliph of Baghdad. By that time, the Abbasid caliphate had long entered a period of political disintegration caused by the weakening of the secular power of the “ruler of the faithful”, the growing independence of provincial governors and feudal lords, the uprisings of the poor and the actions of the peoples of the countries conquered by the Arabs against foreign rule. Therefore, Ibn Sina witnessed endless civil strife and invasions.

The general environment in which Ibn Sina lived and worked, at first glance, does not seem favorable for philosophical, scientific or literary activity. However, the Muslim rulers of that time were great patrons of literature and sciences. They liked to surround themselves with scientists and philosophers, encouraging “foreign”, i.e. non-Muslim, sciences.

The era of Avicenna was the era of the Samanid dynasty, the heyday of science and culture, and Bukhara became the place of the dawn of stars in the center of literature and scientists of that time”. From an early age, Avicenna showed his exceptional intellectual abilities, studying medicine and philosophy, showing interest in the works of Aristotle. It is noteworthy that at the age of 16, he became a famous court doctor who treated the Emir of Khorasan.

Ibn Sina lived in the age of humanism. The patronage of sciences on the part of the emirs was, however, itself due to the development of cities and urban culture on the basis of the rise of the local economy, which was greatly facilitated by the independence of the Central Asian and Iranian emirates, and, consequently, the opportunity to direct funds previously spent on replenishing the caliphal treasury to the development of economic and cultural life.

The heyday of Ibn Sina’s culture is often directly characterized as the Eastern, Iranian, Central Asian or Iranian-Central Asian Renaissance. This epoch really has a number of
pronounced Renaissance features, of which it is necessary to single out the one that is associated with the appearance in the arena of culture of personalities who were a match for the titans of the Western European Renaissance “in strength of thought, passion and character, versatility and scholarship”.

Ibn Sina is a constant wanderer who represented a person of a philosopher and an experimental scientist, an encyclopedically educated scribe and a practicing doctor, a poet and a statesman. His multifaceted activities found adequate expression in the philosophical system he created aimed at achieving unity of thought and deed, truth and goodness, theoretical reason and practical reason.

Avicenna was a scientist obsessed with the spirit of research and the desire for an encyclopedic coverage of all modern branches of knowledge. The philosopher was distinguished by fine observation, phenomenal memory and sharpness of thought — he did not read books, but turned over the pages, holding his attention only on those pages where the most difficult questions were dealt with. At the same time, he was a man of mood, an emotional and (one might even remark) impulsive nature. The philosopher was distinguished by inexhaustible efficiency — he wrote day and night, in any situation — at home, hiding from enemies, in prison, on the road and even in military campaigns, literally without leaving the saddle.

Avicenna left a rich theoretical legacy in many fields of knowledge, including the problems of educating the younger generation. The works of many Russian, Uzbek, Arab and other foreign authors are devoted to the study of Avicenna’s creative heritage. Ibn Sina’s theoretical legacy has been studied in world science mainly by philosophers and historians. The medieval scientist is known more as a philosopher and a doctor, so the bulk of the works of Russian authors is devoted to the study of his works on medicine. However, in the works of these authors, Avicenna’s pedagogical points are only partially covered. There are no works in the Arabic scientific literature specifically devoted to the pedagogical heritage of the thinker.

Thus, the study of Avicenna’s pedagogical heritage is relevant, since it allows to form a scientific idea of the level of educational progressive experience in the conditions of the early Middle Ages, during the heyday and rise of culture in this region.

The purpose of this particular article is to consider the points proposed by Avicenna regarding the methods of education and training, to review the scientific and pedagogical ideas of the ancient thinker.

Methods and materials

The following sources were used in the research process: Ibn Sina’s works reflecting his pedagogical ideas (“The Canon of Medicine”, “The Book of Healing”, “The Book of Salvation”, “The Book of Scientific Knowledge”, etc.); works of teachers, historians, philosophers; comparative studies of the Avicenna’s points of view and the ones of other outstanding teachers.

The above-mentioned documents set forth the scientist’s thoughts about the essence of man and the ways of his formation and development, about the goals, content and means of education, about the relationship between the educator and the educated and a number of other problems that are most directly related to pedagogy.
Research methods: analysis, synthesis and historical and pedagogical interpretation of the data contained in the sources; comparative historical method that allows you to compare and contrast historical and pedagogical facts, to identify common and special in them; systematization and generalization of materials obtained as a result of the study of open Internet sources and modern scientific literature.

Results

Avicenna held a high position among scholars and educators in the field of Islamic thought. He was one of the first among Muslim scholars who paid attention to the issues of upbringing and education of the younger generation in his works. They are very progressive and quite close to modern pedagogical views.

Avicenna sees the goals of education in the overall growth of a person: physical, mental and moral, and then in preparing him for life in society through his chosen profession, depending on his abilities. It is possible to see that education is designed to prepare students for a profession through which they can contribute to society. In other words, education, according to Avicenna – is the upbringing of a good citizen, healthy in body and spirit, able to live in society, ready for intellectual or practical activities.

Ibn Sina was one of the first Eastern scholars who made a coherent system and description of parenting techniques. Many of his works were devoted to these issues. So in his work “Tab bir ul Manzil” there is a chapter concerning education; in the first book of “The Canon of Medicine”, four chapters covered the problem of children’s health and physical education; a chapter on various methods of parenting is also available in his philosophical work “Ash-Shifa”, etc.

So, for example, in his brilliant work “The Canon of Medicine”, written in 1012-1024, the section “On education” was begun with the rules of observing the child’s regime from the moment of his birth until he gets on his feet.

Avicenna attributed to the number of useful means necessary for infants and used in order to strengthen their nature: firstly, light dandling and, secondly, music and a song, usually sung when lulled to sleep. The scientist believed that according to the degree of perception of these two things by a child, they predispose him to physical exercises and music. The first refers to the body, and the second to the soul.

Many of the thoughts of “The Canon” about the child upbringing are striking in their depth, humanity, and correct interpretation of the complex problem of upbringing. For example, Avicenna draws attention to the balance of the child’s character, which is achieved by protecting him from strong anger, strong fright, sadness or insomnia. The scientist writes that a parent needs to be constantly ready to give his child what he wants and desires, and to remove what he does not like. At the same time, a twofold benefit is achieved. One is for the soul of the child, as he has been brought up as good-natured since his childhood, and this will turn into a mandatory habit. The other is for the body, since an evil disposition is conditioned by a different kind of bad nature, just as if (an evil disposition) becomes a custom, it will entail a corresponding bad nature. For example, anger greatly heats the body, sadness greatly dries it, apathy weakens mental strength and inclines nature to mucusiness. As a result of balancing the character, the preservation of health is achieved simultaneously for the soul and body [3].
In conclusion, Ibn Sina indicates that the child is handed over to the educator upon reaching the age of six. Education, according to the scientist, should proceed gradually; that is, you should not immediately tie the child to the book. When he reaches this age, it is necessary to reduce bathing in warm water and strengthen physical exercises before eating. Avicenna recommends such a regime for children until they reach the age of fourteen.

Ibn Sina can rightfully be called one of the founders of pediatrics. Ibn Sina had the strongest influence on the development of pediatrics in Europe in the Middle Ages. The world’s first printed book on pediatrics, E. Konius notes [4], was published on April 21, 1472 in Padua – this was the work of Pavel Bagellard “A book about the diseases of children”, it contained numerous references to Razi and Avicenna. In the following centuries, dozens and hundreds of treatises repeated and developed Ibn Sina’s points on the care of a sick and healthy child.

According to Avicenna, it is very important to properly monitor the behavior of the child and instill in him good habits. It is necessary to start introducing him to literacy in a timely manner, to acquaint him with the basics of crafts, with art.

Ibn Sina draws attention to the following principles of home education. First of all, in his opinion, the father should call the child a good name and find him a wet nurse and a nanny who are healthy mentally and physically. When a baby passes a difficult age, the father is obliged to take care of him, protect him from bad influences, etc.

At the age of six, a child can be taught to perform simple tasks. But in order to do this, on Avicenna’s advice, it is important to be very careful, to make sure that he treats the tasks with interest, without any excessive overload. The scientist believes that such children will develop a normal character and they will grow up healthy and cheerful. In families where this method of education is not followed, children most often grow irritable and even embittered, cowardly, weak, since, according to Avicenna, “body and spirit are inseparable from each other”.

Ibn Sina pays great attention to the formulation of proper school education. In a school where a child is brought up to the age of 14, only good teachers should teach. According to the scientist, the teacher should be a courageous, honest and warm-hearted person who knows the rules of morality well and knows the methods of raising a child. Avicenna is convinced that not allowing a child to study alone will make him unhappy. Children should communicate with each other, borrow good manners from each other.

The scientist wrote that at school the child should stay with other children who have good manners, because “the child learns from the child”. Ibn Sina cites the advantages of such training: ethical education, mental development, social education and satisfaction of spiritual and mental needs [5].

During the eight years of study at school, a student is obliged to get acquainted with the theological sciences, study the Koran, his native language, and also learn to parse poems of ethical and moral content. At school, he will be introduced to the basics of crafts and art (depending on the inclinations of the child).

In Avicenna’s opinion, children should devote their free time to recreation – physical education and doing their own things. Speaking about the importance of sports in proper education, the scientist, in particular, dwells on the description of its types, which are widespread today, namely: various ball games, jumping, running, walking, javelin throwing, horse riding, ice skating, etc. As a doctor, Ibn Sina advises teachers to allow students to
engage in physical education at a time when the child’s stomach has already digested food, but has not yet emptied. In this case, physical exercises will benefit children.

The teacher, according to Avicenna, is obliged to know that he must protect the student from bad habits and make sure that he is surrounded by well-behaved friends. The teacher should be able to encourage the good deeds of the child in a timely manner, and, if necessary, show rigor. At the same time, excessive strictness is very harmful. The child may withdraw into himself, stop consulting with the teacher and consult with him on educational issues. Ibn Sina also warns against excessive liberalism of the teacher towards the student, which, in his opinion, makes the child disobedient. He starts skipping classes, ignoring the teacher’s comments.

The teacher is to study the nature of the student, to understand the mindset of his mind. He is obliged to reveal and develop his abilities in a timely manner, and Avicenna emphasizes that one child may gravitate to intellectual work, another to crafts, etc. Only knowing this, the teacher will be able to correctly assess the student’s inclinations and help him choose a future profession.

Based on the abilities that become more obvious by the end of primary education, a young person determines for himself – either to continue his education, or to learn a craft and earn a living.

According to Avicenna, a teacher should know which craft is suitable for a particular student, depending on his abilities. The scientist believed that these inclinations can be noticed by observing the behavior of a student. Determining the true origin of abilities is a difficult question for Avicenna, not amenable to human understanding. However, the scientist understood that there are also people with intellectual disabilities, attention, etc., unable to co-study with other children, requiring separate supervision.

The young person, having studied the craft, is obliged, according to the scientist, to earn his own living. Seeing that his son has grown stronger, matured and can already work and live independently, the father should marry him and provide a new young family with a separate home.

Avicenna understood the importance of professional orientation of students at a certain stage of education, as he saw the connection between education and the socio-economic needs of society. Each student should specialize in the field of activity that should become his future job and source of his income.

Avicenna himself, when teaching his students, was not limited to any one method. For example, sometimes he gave the material dictated, sometimes conducted with students of the discussion, he also did the explanations of the material, wrote works or books in order to express the message, replied questiones, advised the students to read or explore something, etc.

The method of physical punishment Avicenna considered harmful, and that excessive beating includes an element of revenge and does not reach the desired educational effect [5].

Ibn Sina is one of the founders of the science of child health. His works formed the basis for numerous subsequent studies on pediatrics. Many of the judgments expressed by Ibn Sina in various works are really striking in their depth, humanity, and correct approach to solving a number of educational issues. At the same time, the scientist not only correctly determines the regime of raising a healthy child. He pays serious attention to the personality of the educator involved in the formation of the character of the future citizen.
Ibn Sina is sure that moral education depends on proper education, so is the physical health of the child. The proposals of Ibn Sina as the teacher could not be implemented in the conditions of his time. They are being successfully implemented today in many countries of the world.

Thus, it is possible to remark that Avicenna meaningfully covers many issues of child health protection. In “The Canon” he gives a lot of subtle observations, reasonable pieces of advice. Ibn Sina also demonstrates a deep understanding of the nature of the child and not only as a physician, but also as a teacher, he gives important notes about education. Nowadays it is a matter of regret that Ibn Sina’s name is not mentioned in the history of pedagogy.

Discussion

It should be noted that Ibn Sina’s points of view differ in many ways from the pedagogical opinions of ancient philosophers, mainly by their originality. For example, Aristotle and Plato considered the main task of education as the one to make a child useful primarily to the state. Ibn Sina emphasizes that regardless of public and state benefits, as the child must firstly receive a good moral and mental upbringing in the family and every parent is responsible for this.

Aristotle and Plato recognized education only for the privileged ruling class, Ibn Sina makes no distinction for any classes, believing that any child should study. Aristotle pointed out the senselessness of teaching crafts and arts to the aristocratic part of society, whose purpose, in his opinion, was to govern the state. Moreover, the ancient philosopher saw the practical harm of such training, assuming that it would distract the child from his main interests and interfere with the harmonious development of his body. He left the training of crafts to the children of ordinary people and slaves. Ibn Sina, on the contrary, was firmly convinced that learning crafts, as well as sciences and art, is necessary for every future member of society, no matter what profession he chooses in life and no matter what class he belongs to.

Conclusion

In his numerous works, the scientist not only summarized the knowledge accumulated before him. He developed them in many ways, enriching them with the results of painstaking observations and research, brought them into a single coherent system. Ibn Sina’s great ability to work, ability to observe, extraordinary memory and magnificent erudition helped him become a genuine scholar-encyclopedist. According to Persian scholars, Ibn Sina “belongs to the famous philosophers, the greatest scientists and doctors of Islam. The variety of sciences he possessed is greater than anyone could list them. He is the first philosopher who, in the Muslim era, spread the carpet of his benefactions and benefits for the masses of the people, and he gave pleasure to students of science at the banquet tables of philosophical disciplines and medical knowledge” [6].

Much of what has already been done in the field of pediatric science is a creative embodiment of the humane ideas and plans of Ibn Sina. The same real embodiment of Avicenna’s plans is the activity of numerous educational institutions that study the problems
of physical education of the younger generation, the role of physical education and sports in the prevention of various diseases, etc. Ibn Sina considered physical exercise an important factor in the prevention and treatment of a number of diseases. Many of his instructions and conclusions on this matter formed the basis of the modern science of human physical education.

REFERENCES