

THE ROLE OF ASTRONOMY COURSE LABORATORY TRAINING IN THE DEVELOPMENT OF SCIENTIFIC-RESEARCH COMPETENCE OF STUDENTS

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ABSTRACT

The article reveals some possibilities of astronomical education in the development of students, shows the place of astronomical education in the system of training graduates of pedagogic institutions of higher education and schools of general secondary education.

KEYWORDS: *Astronomy, Competence, Research, Laboratory, Cosmos, Astrophysics, Method, Scientific, Physics.*

INTRODUCTION

M. Mamadazimov states that "Astronomy classes serve to familiarize young people with unconventional, creative thinking".[1]. At the same time, he writes: "The formation and development of astronomical ideas among students is a long process that should begin at senior preschool age (on the basis of available books for children on astronomy) and continue throughout the entire time of schooling" [2]. The main task of astronomy, according to M. Mamadazimov, is to give students "a holistic view of the structure and evolution of the Universe, to reveal to them the astronomical picture of the world of the 20th century." [3].

"The course of astronomy, writes E.K. Strout, is called upon to contribute to the formation of a modern scientific picture of the world, revealing the development of ideas about the structure of the Universe as one of the most important aspects of the long and difficult path of humankind's knowledge of the surrounding nature and its place in it".

It should be emphasized that "the discipline "Astronomy" is one of the main disciplines in the training of teachers in the specialty 60111700 – Physics and Astronomy". So, "the purpose of the discipline is the assimilation by students of scientific knowledge in the sections of astronomy, mastering the skills in conducting the simplest astronomical observations, theoretical and experimental methods of astronomical research, the formation of a modern astronomical picture of the world as part of the natural-scientific picture of the world, the development of cognitive needs". In the section "Requirements for the level of mastering the content of the discipline" it is said that "a student who has studied the discipline "Astronomy" must possess knowledge of fundamental phenomena and effects in the field of astronomy, know and be able to use knowledge in general astronomy, possess experimental, theoretical and computer methods of

astronomical observations, to know the current state, theoretical work, results of observations and experiments in the field of astronomy”.

When studying astronomy, there is an acquaintance with celestial objects very distant from the observer, in addition, there is a development of unusual methods of cognition for the study of such characteristics of celestial bodies, which students often meet in classes in other disciplines.

Astronomy occupies a special place among the most ancient sciences. “The sky, especially the night one, strewn with stars, constantly attracts millions of eyes with its beauty, it is fraught with many tasks and mysteries that affect the main questions of the universe, the resolution of which is not indifferent to all inquisitive mankind, and it becomes clear that high interest in astronomy, which we observe in all people from ancient times to the present day ". I. Kant expressed his attitude to the “heaven” in a poetic-sounding statement: “Two things always fill the soul with new and stronger surprise and reverence, the more often and longer we think about them - this is the starry sky above me and the moral law in me ».

The extremely high interest in astronomy covers the widest audience from scientific astronomers, physicists, chemists, etc. to the widest range of non-specialists in this field of knowledge, which was noted by M. Mamadazimov, I. Sattarov, S. Nuriddinov, Sh. Egamberdiev, B. Akhmedov, O. Burkhonov and others. With such an attitude towards astronomy, one can speak of a serious interest in science, which is a powerful incentive for the development of students.

It should be emphasized that astronomy is one of the main worldview sciences, it has a special role in completing the natural and mathematical education of students in both schools and pedagogical universities.

It is astronomy, like no other subject, that can best cope with the task, since:

- Contains components that systematize, consolidate and deepen mathematical, physical, chemical, geographical, environmental and other knowledge;
- Creates the necessary conditions for the development of creative thinking, demonstrates the enormous possibilities of cognition;
- Makes it possible to study states of matter different from earthly conditions (enormous pressures, masses, sizes, densities, superhigh temperatures, space vacuum, etc.);
- Allows you to illustrate many sections of modern natural science, lays the foundation for the formation of a scientific picture of the world;
- Is the science that can be a link between the natural sciences and the humanities;
- Contributes to the environmental education of students, serves to preserve the ecological balance on Earth, considering the issue of the relationship between Man and the Cosmos;
- Contributes to the development of cognitive interests of students

Astronomical education at school is part of the general education in physics at the basic and specialized levels. The study of astronomy in most secondary schools is limited to the consideration of certain issues within the framework of the physics course. And only if the school is interested in giving students the necessary training in this field of knowledge, then

astronomy is studied as an independent discipline in special schools, specialized and specialized classes, as a subject of choice at the expense of hours of the school component of the curriculum.

Astronomy provides ample opportunities for mastering the content of education in computer science and information technology and other disciplines at the basic and profile levels in solving such an educational problem as the use of information technology in modeling and analyzing astronomical processes and phenomena.

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