CONCEPTUAL FUNDAMENTALS OF MODERN TECHNOLOGY OF TEACHING ASTRONOMY IN GENERAL SECONDARY SCHOOLS

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Abstract
The article discusses the conceptual foundations of modern pedagogical technologies for teaching astronomy in secondary schools.

Key words - astronomy, educational technologies, ,conceptual foundations, potential, cooperation, developmental education, problem-based learning.

INTRODUCTION

The choice of leading teaching technologies is determined by the learning objectives, then continues depending on the content of the choice and is finally adjusted in practice. Considering that the main goal of teaching is the development of all abilities of students, the following requirements should be established on the basis of modern teaching technologies:

• student - the subject of the educational process;
• Effective learning - takes place in the process of active learning.

LITERATURE REVIEW

Almost all innovative technologies meet these requirements. After studying the leading ideas of innovative technologies, we chose three concepts: collaboration, developmental education, problem-based learning, which, in our opinion, allows us to develop the potential of the subject of astronomy and realize the worldview most successfully. Complies with the new National Curriculum and ensures a high level of effective acquisition of knowledge and skills.

RESEARCH METHODOLOGY

The concept of cooperation. Collaborative learning in small groups is the key to learning together. Practice shows that reading together is not only fun and easy, but also more effective. "The goal of collaborative learning is not only for each student to acquire knowledge and skills that are appropriate to their individual developmental characteristics. It's important to develop communication skills here."

The concept of developmental education. Proponents of evolving education (L. S. Vygotsky, N. A. Menchinskaya, V. V. Davydov, P. Y. Galperin, N. F. Talzina) believe that learning and development are two independent but interrelated processes. According to this concept, education improves development, and development prepares and implements learning. A metaphor for the basic idea of education development is "pre-development learning". Development requires a chain of special measures, that is, it is built only on certain rules and develops teaching under certain conditions. The construction of the learning process should be based on the real area of development (area of available opportunities) and the performance of tasks should stimulate development in the area of proximal development (depending on the region) (potential opportunities). In other words, such sessions should create problems for students that cause learning difficulties because they cannot solve them by relying on reproductive knowledge, solution reasoning, team discussion, brainstorming, assumptions, quoting and testing them, i.e., reading, observing, researching. This principle creates a number of conditions: not to impart knowledge in a complete form, the student must acquire it by performing a task that requires intensive mental work. It is important for each

student to anticipate the «state of success», that is, to offer tasks and learning activities that the child will surely accomplish and that he or she will consider a winner.

The concept of problem-based learning. Fundamentals of problem-based learning V.Okonem, I.Y.Lerner, M.I.Makhmutov and. Developed by M. Matushkin. «Problem-based learning is defined as the organization of learning activities under the guidance of a teacher, which involves the creation of problem situations and the active independent work of students to solve them, resulting in professional creative skills, knowledge, skills. developing skills, abilities and thinking skills». Therefore, the goal of problem-based learning is not only to acquire knowledge and skills, but also to turn the world into a tool for creative development.

ANALYSIS AND RESULTS

In addition to the general objectives, there are a number of general elements related to the practical application of the above ideas:

• high motivation for learning activities;
• Knowledge and skills serve as an information base for developing students' abilities;
• The process of assimilating basic concepts and principles has a broader meaning and allows for the acquisition of methods of cognitive activity that are important outside of a particular context;
• Students do not acquire knowledge in a complete form, but in the process of mental work;
• The predominance of production activities - search, partial search, search;
• intensification of all levels of the educational process;
• error response as an indicator of material assimilation, which allows you to move forward or assist signals;
• democratic teaching methods and the dialogic nature of the student-teacher relationship;
• continuous multi-channel communication - «student-student», «student-teacher», performing the functions of correction, management, evaluation at various stages;
• Successful mastering of the material by all students;
• Develop self-discipline skills.

CONCLUSION/RECOMMENDATIONS

In conclusion, it should be noted that all teaching technologies are so interconnected that they complement each other, and even when analyzing a single lesson, it is difficult to separate the elements of each of them.

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