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## Steam and Smart Educational Technologies and Teaching Technologies in the Field of Education

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**Annotation:** The essence of the educational content, the innovative approaches of our country and the world experience, and the introduction of teaching technologies into the field of education are highlighted.

**Keywords:** Competence, STEAM, Teaching technologies, pedagogical technologies, developmental technologies, educational technologies.

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As a result of the development of the content, goals and tasks of education, its forms, methods and tools are also improving. The main directions of current human activity are turning into an integrated system, i.e. technologies, which provide the opportunity to fully realize the intended goals of this activity. Similarly, educational technologies have been actively used in the field of education in recent years. It is known that the process of education consists in the teaching of knowledge and experience by the older generation to the younger generation, and in this process, mainly, information necessary for human life is transferred from generation to generation. Human life is closely related to information.

In world educational institutions, creative-modular technologies of forming technological competences of students are applied to the educational process based on innovative approaches. Within the framework of UNESCO's International Project "Scientific and Technological Literacy for All", systematic work is being carried out on the implementation of the global tasks of education, the formation of technological outlook, technological literacy, technological competence, and the effective implementation of innovative approaches in practice.

Although the terms teaching technologies, pedagogical technologies, developmental technologies, educational technologies, and educational technologies have been used at different times and in different sources, they all have a common goal, which is to achieve educational goals and It is understood as a system and project of continuous development and improvement of the effectiveness of pedagogical activity aimed at forming a mature person in all respects.

Scientific research on the formation of independent creative thinking abilities and technological competences of schoolchildren in world educational and scientific research institutions, increasing the effectiveness of technological knowledge, applying STEAM (science, technology, engineering, art and mathematics) education work is being done. At the same time, on the basis of an innovative approach, the selection of the object of work in the teaching of technology, active forms of organization of the educational process, systematic use of technology and elements of practical work, qualification requirements in the process of technological education, and the information and method of educational science special attention is being paid to scientific research on improving its supply.

Every action of a person consists of receiving and transmitting information or using it, learning, mastering, storing and enriching it. That is why the current human civilization is called information



civilization. The 21st century is not called the information age for nothing. "Civilization is a highly stable state of matter capable of gathering, analyzing, and using information to create information about the environment and itself." From this definition, it can be seen how important the transfer of information from generation to generation is, that is, the importance of education. That is, education is a condition for the existence of civilization.

The visualization of the planned results is formalized in the following forms: knowledge, skill, method of action, important direction, socially important personal qualities and qualities, and correspondence of other expected results.

A rational teaching model is created, which allows the implementation of didactic tasks and consists of a set of teaching methods, organizational forms, tools, and pedagogical methods. The displayed tools and pedagogical techniques should be in harmony with the educational materials, personal abilities and level of development of the students. Also, the material base of the educational institution should be taken into account.

"In the programs, hours are allocated for lectures and practical classes, depending on the specialization areas, while for some areas, hours are allocated for lectures, practical and laboratory classes. Based on the name of the course, since it is an experimental science course, it is appropriate to have lectures, practical and laboratory activities. However, the development of information technology in education has led to the fact that some universities have given hours for lectures and laboratory classes, and some for lectures and practical classes. Therefore, it is necessary to use modern teaching technologies, such as information technologies, to convey complex material to students. [2]

The structure of the lessons is thought out and implemented as follows:

- diagnosis of the current state of educational work;
- extracting important controlled indicators;
- current and final control of the state of the pedagogical process;
- based on the results of diagnosis and control, determining methods and means of return communication;

Factors that are improbable and hindering the implementation of educational technology and ways to eliminate them are considered.

In the implementation of the educational project, special attention is paid to the following activities:

- to familiarize students with the goals and tasks of the studied topic in advance, to announce problems, assignments, as well as homework, independent work, the order and time of their completion, to fully master the topic to give instructions, to tell the standards of mastering at the standard level;
- to stimulate the active and independent activities of learners, draw children's attention to the content of the section or topic, tell them how to teach it and arouse interest in learning, the desire to read and learn, and the need to solve problems shoot Collecting information on the topic through the ways of applying emotions, thought phenomena, knowledge to educational situations, organizing current control over the collected information, changing the topic for full mastery, addition, setting corrections;
- processing of accumulated knowledge on the department or topic. The educational process has a scholastic character. Expected and unexpected, planned, extraordinary and accidental events



also occur in it. Therefore, based on the studied results, new changes, additions, corrections are made to the project, it is also mentioned how close the children are to the standard level;

- drawing general conclusions on the department or topic, applying the conclusions to complex educational situations.

According to the results of intermediate control, collecting information on the topic or department, analyzing the achievements of students in the processes of processing the collected information, showing the shortcomings of students' knowledge, skills, experience of creative activity, relationships, giving each student additional tasks to complete until the final inspection, encouraging them to master the educational materials more comprehensively at the benchmark level;

- the main function of the final control is to determine whether learners have mastered the elements of knowledge and educational content at the standard level, to warn students who mastered below the standard level, and to give additional assignments.

Control - the task of the evaluation unit is to conduct current, intermediate and final controls on the progress of the implementation of the set goal, that is, to provide regular feedback and information processing. After analyzing the received information, if necessary, changes will be made to future actions, and finally, a conclusion will be drawn about the compatibility of the set goal and the obtained results. A conclusion is made about the suitability of the situation in the achievement of any goal. The situation directly affects the achievement of any goal.

Technologization of education means solving the issues of educational development in a qualitative way, designing the teaching process in a universal way, regardless of the personal skills of the teacher, in order to achieve the educational goals.

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