

## USE OF COGNITIVE TECHNOLOGIES IN THE EDUCATIONAL PROCESS

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### Abstract

In this article, cognitive technologies, the use of cognitive technologies in teaching activities. An opinion was expressed about the professional training of future teachers and the development of their personal abilities.

**Keywords:** Cognitive technologies, motivation, reflexive, professional training, educational technology, cognitive interest, creative ability, individual.

### Annotatsiya:

Ushbu maqolada, kognitiv texnologiyalar, o'qituvchi faoliyatda kognitiv texnologiyalardan foydalanish. Bo'lg'usi o'qituvchilarni kasbiy tayyorlash va ularda shaxsiy qobiliyatlarni rivojlantirish haqida fikr bildirilgan.

**Kalit so'zlar:** Kognitiv texnologiyalar, motivatsiya, refleksiv, kasbiy tayyorgarlik, ta'lim texnologiyasi, kognitiv qiziqish, ijodiy qobiliyat, individual.

### Аннотация:

В данной статье когнитивные технологии, использование когнитивных технологий в педагогической деятельности. Высказано мнение о профессиональной подготовке будущих учителей и развитии их личностных способностей.

**Ключевые слова:** Когнитивные технологии, мотивация, рефлексивность, профессиональная подготовка, образовательная технология, познавательный интерес, творческая способность, личность.

### Introduction

At the international level, research conducted by the world's leading higher education institutions and research centers on innovative training of future specialists and the implementation of modern education places particular emphasis on defining the criteria of professional competence of future teachers, addressing the problems of creating an innovative educational environment, and introducing the requirements of international educational standards. In this context, scientific studies aimed at expanding the structure of young teachers'



pedagogical competence—based on indicators such as motivational, cognitive, operational, reflective, and self-assessment components in the successful application of modern information and pedagogical technologies in the educational process—occupy an important place. The pedagogical process is a complex systemic phenomenon. Its high significance is closely connected with the cultural, historical, and social importance of the process of personal development. Therefore, understanding the key characteristics of the pedagogical process and knowing which tools are necessary to ensure its most effective functioning are of great importance. At present, under the conditions of modern education, teaching methods are undergoing a complex transformation associated with changes in educational goals and the development of a new generation of state educational standards based on a competency-based approach. Additional challenges arise due to the reduction of instructional hours allocated for studying individual subjects in the basic curriculum. All these factors necessitate new pedagogical research in the field of teaching methodology, as well as the search for innovative tools, forms, and methods of teaching and education related to the development and implementation of modern educational and information technologies in the educational process. The main objective of secondary vocational education is to train qualified specialists who are capable of effective professional activity in their chosen field and competitive in the labor market [2]. This issue is being studied by many domestic and foreign specialists, pedagogical scholars, and psychologists. Cognitive psychology is one of the most prominent scientific fields in foreign psychology. The term “cognitive,” translated into Russian, refers to cognition or knowledge. This research direction was mainly formed in the 1960s, and the results of its first stage of development were summarized in V. Neisser’s monograph *Cognitive Psychology*, published in 1967, which gave its name to a new direction in psychological thought. In his later book with the same title, R. Solso notes that cognitive psychology studies how people perceive information about the world, how this information is represented by the individual, how it is stored in memory and transformed into knowledge, and how this knowledge influences our attention and behavior.

Thus, almost all cognitive processes are encompassed—from sensations and perception to pattern recognition, memory, concept formation, thinking, and imagination. Over several decades, the main directions of cognitive psychology that have become widespread in many countries generally include research on the psychology of cognitive structure development, the psychology of language and speech, and the development of cognitive theories. In the educational process, modern educational technologies are used to enhance the quality of education, make efficient use of study time, reduce the proportion of students’ reproductive activity, and support the implementation of students’ cognitive and creative activities. Modern educational technologies, regardless of age or level of education, are aimed at individualization, flexibility and distance learning, as well as students’ academic mobility. Educational technology is defined as a systematic method of designing, implementing, evaluating, correcting, and subsequently reproducing the learning process. Educational institutions, particularly in secondary professional education (SPE), widely apply pedagogical technologies in the instructional process. The introduction of modern educational and information technologies into the teaching process enables teachers to ensure depth and durability of knowledge, strengthen skills and competencies across various fields of activity, develop



technological thinking, foster the ability to independently plan one's own learning and self-education activities, and cultivate habits of strict adherence to technological discipline when organizing educational activities. The large-scale application of pedagogical technologies allows teachers to use instructional time efficiently and achieve high learning outcomes among students. Traditional training of specialists focused solely on the formation of subject-based knowledge, skills, and abilities is increasingly failing to meet modern requirements. The foundation of education should not be academic disciplines alone, but rather ways of thinking and acting. A highly qualified specialist must not only be trained but also integrated into the stage of independently mastering new technologies, adapting to specific production environments, and continuing self-directed learning. Based on experience in applying innovative methods in pedagogical practice, several advantages can be identified. These methods help students master new knowledge through active learning approaches [3]. They create opportunities for developing a high level of personal and social activity, establish conditions in which students cannot remain passive in the learning process, stimulate creative engagement, bring learning closer to real-life practice, and contribute to the formation not only of subject-related knowledge, skills, and competencies but also of an active life position. At the present stage, education is primarily focused on personal development, increasing learners' activity and creative abilities, and consequently expanding opportunities for independent work, self-monitoring, and the use of self-control methods. Active forms and methods of teaching can achieve these outcomes only when students demonstrate genuine interest. Cognitive interest represents an intellectual and emotional attitude toward the learning process, a learner's aspiration for knowledge, engagement in completing individual and collective tasks, and interest in the activities of teachers and peers. Cognitive activation is a continuous process of maintaining motivation for purposeful learning. The problem of developing students' cognitive activity in the educational process is one of the most important issues in modern pedagogy, as improving educational quality and motivating students to achieve academic and creative results largely depend on its solution. Addressing these challenges is viewed as enhancing the professional capacity of teaching staff, expanding their capabilities, and ensuring their psychological and physical resilience [4].

In conclusion, it can be stated that the pedagogical process is a purposeful interaction aimed at achieving specific objectives and bringing about a preplanned transformation of the educational situation, as well as changes in the characteristics and qualities of both teachers and learners. In other words, the pedagogical process represents the assimilation of social experience into personal qualities. This process requires educators to possess extensive knowledge, experience, and professional skills. Similarly, cognitive-visual skills—such as the ability to anticipate situations, comprehensively analyze problems, organize large flows of information within one's consciousness, and achieve coherence in thinking and actions—are essential factors for teachers. Therefore, the development and study of cognitive-visual skills remain a pressing and relevant issue in modern pedagogy.



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