



## DEVELOPMENT OF PROFESSIONAL CREATIVE THINKING AMONG STUDENTS

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**Annotation.** The article discusses the advantages and importance of professional creative thinking in human activity. The features of a professional in the field of creative thinking are described. The main types of professional creative thinking are considered, European (analytical, American), Asian (intuitive, Chinese). A foreign study (the California Experiment) is considered and analyzed, which aims to study professional creative thinking from school age, throughout life, to death due to natural causes (old age). The theoretical and methodological foundations for the organization of research are considered, and the authors conclude that it is important to systematically consider professional creative thinking. The methods of studying professional creative thinking are presented. The author's model of professional creative thinking development is considered. The levels of professional creative thinking development are characterized. The main patterns of the development of thinking are presented, which make it possible to develop creative professional thinking quite effectively.

**Keywords:** semantic theory of thinking, European type of thinking, Asian type of thinking, creative type of thinking.

The current socio-economic situation in Uzbekistan requires an increasing number of people with professional creative thinking. People have always aspired to become professionals in a particular field of activity. Those who are considered professionals in their field have competitive advantages in the labor market compared to ordinary members of society. Individuals with developed professional creative thinking have a higher financial reward in society compared to ordinary members of society; they enjoy authority and respect among colleagues and ordinary members of society; they contribute to a specific field of activity; they are listened to; they have the opportunity to change the lives of others through their authority and other opportunities that professionals receive in comparison with ordinary members of society; and they also have other advantages in society.

The psychology of professional creative thinking helps a person to advance towards professionalism in a particular field of activity, as well as develops his professional self-awareness, helps self-disclosure and self-compensation, allowing a person to work highly efficiently, creating creative products in society and contributing to the prosperity of the country. By professional creative thinking, we mean the activity of thinking about creating a creative product in a certain field of professional activity that contains an innovative component of the product, while creating an innovative creative product that takes into account the achievements (achievements, prerequisites) of its predecessors, and the created product has significance, usefulness in society and does not resemble existing creative products in society.[1]



A professional in the field of creative thinking has: has the necessary stock of knowledge, skills and abilities, knows the techniques of professional reflection; is aware of moral values, motives, creates new meanings in the field of his professional activity; has high standards of work quality in his professional activity; independently builds his professional career and is resistant to stress; is capable of constant self-improvement; feels satisfaction from his professional activities; carries out self-realization in a specific field of activity; acts as a propagandist (ambassador), in a specific field of activity, advanced ideas, approaches and technologies; contacts and interacts with other professionals from his field of activity or related fields; promotes the introduction of original creative ideas into his professional field that contribute to improving the quality or effectiveness of activities.

For a rational understanding of the existing concepts of creative thinking, let's consider the main types of professional creative thinking that exist in modern society: European (American, analytical), carried out according to the type of dichotomy (bad or good, black or white, etc.) is based on the laws of logic, mainly believing that the whole is the sum of the parts, based on the word; Asian (Chinese, intuitive) – assuming the existence of two opposite phenomena, based on an image, not a word as in the European type. These types of thinking were formed due to the fact that in Europe (mythological, religious, scientific) thinking replaced each other, and in China they existed together. Rational explanation of myths is a national feature of traditional Chinese culture. [2]

Let's consider foreign longitudinal studies of creative (intellectual) development from school age to death, due to natural causes (old age). The California experiment was started in 1921 under the leadership of Lurie Theremin with 1,528 schoolchildren aged 8-12 who were able to score 140 points on the IQ test. All the students who got into the research group were characterized by teachers as curious, Lurie Theremin called it an intellectual initiative (modern understanding of high cognitive need)

The experiment was completed due to natural causes, due to the death of the subjects due to old age. Students with an intelligence of 140 had an above-average income, and their lives were more prosperous than those of their ordinary peers, but they did not show outstanding results. Two teenagers who did not reach 140 points received Nobel Prizes in the field of natural sciences (William Shockley with an IQ of 129, inventor of the transistor). Based on the results of the California experiment, it can be concluded that the weight of some factors is considered insignificant in the overall impact on creative thinking in the current situation, so the researchers decided to neglect these factors.; The operational manifestation of creative thinking is influenced by factors that ensure creative activity, and other factors unrelated to the operational manifestation of creative activity do not affect the manifestation of creative thinking in the short term, but have a significant impact on the development and manifestation of creative thinking in the future. In our opinion, to evaluate the results of professional creative thinking, only operational manifestations of creative thinking are not enough, it is necessary to apply an integrated, systematic approach to the study of professional creative thinking. A simplified understanding of IQ and professional creative thinking does not allow for a fully objective assessment of the level of development of professional creative thinking, as important factors that have a significant impact on the manifestation of creative thinking in subsequent professional activities are overlooked. Summarizing all the above, it is necessary to consider professional creative thinking multicomponently (systematically), only in this case it is possible to link creative thinking

with the success of creative activity in the future. I would also like to note that due to the faceted (selective, factorial) consideration of psychological phenomena, the collected data is difficult to analyze and relate to each other, which does not allow us to advance in understanding the essential nature of professional creative thinking. [3]

As methodological principles, we used: determinism – the study of psychological phenomena depending on their causes; development – revealing changes occurring in phylo-, onto- and sociogenesis; a systematic approach (applied to complex systems, one of which is creative thinking; reflecting the structure and characteristics of the included elements; allowing the use of information encoding tools (symbols and signs); creating a systematic description of mental phenomena; which makes it possible to systematize information without redundancy of data, which is noted when using a local approach). Let us consider the developments in the framework of O.K. Tikhomirov's semantic theory of thought [4].

Thinking is a cognitive activity determined by semantic formations (needs, motives, goals), personal characteristics, and level regulation by emotions. Thinking is carried out on the basis of processes subordinated to a conscious goal and through unconscious processes to anticipate future performance results. Semantic theory considers: the role of semantic formation in professional creative thinking; the emergence and functioning of semantic formations; the development of meanings in individual and group (joint) professional creative thinking; mechanisms of professional creative thinking; the emergence of neoplasms in the course of professional creative thinking of the subject, leading to personality change; non-verbal meanings - conditions, tasks, situations that develop in the process of professional creative thinking; highlights operational meanings (purpose, situation, elements) in professional creative thinking.

Goal formation is determined by motivational factors of coordination of external (objective) and internal (subjective) characteristics of the professional creative process. In professional creative thinking, when forming motives and goals, the central role is assigned to intellectual emotions that perform the function of the meaning of achieving the goal at different stages of goal realization. The analysis of professional creative thinking as a holistic education according to the activity approach assumes consideration of conscious and unconscious mechanisms of goal formation.

As the motivation for professional creative thinking increases, the number of hypotheses and, accordingly, solutions to the problem increases, which in turn further enhance the degree of involvement and absorption in the process of creative thinking. The nature of motives largely determines the structure of professional creative thinking: with internal motivation, a holistic intuitive processing of the search for a solution appears, with the participation of intellectual emotions; with external motivation, rational-logical, consistent processing of the subject content is manifested and conflicting emotions appear when an unsuccessful attempt at the creative process is made.

Emotions influence creative thinking in the process of solving a problem. The following forms of emotional activity in creative thinking are distinguished: decision; fixation; detection; guidance; correction. psychology; foreign researchers have come to the need to take into account socio-cultural factors empirically; in O.K. Tikhomirov's school, along with socio-cultural factors, the specifics of joint creative activity were also studied; prospects for the development of the psychology of creative thinking – the study of the specifics of creative thinking in each specific case of professional activity. Interesting developments in the field of

professional creative thinking research were carried out at the scientific school of Ya.A. Ponomarev [6], which recommends that three components be distinguished in thinking: logical (analytical, American) – based on the laws of logic; intuitive (Asian, Chinese) – based on creative insight, intuition, in which actions are not realized creative – based on the unity of logic and intuition.

To study and evaluate professional creative thinking, it is advisable to use a comprehensive system of methods and techniques in order to offset the disadvantages of one method (methodology) with the advantages of another method. In our research, we used the following methods and techniques of psychology; foreign researchers came to the need to take into account socio-cultural factors empirically; in O.K. Tikhomirov's school, along with socio-cultural factors, the specifics of joint creative activity were also studied; prospects for the development of the psychology of creative thinking – the study of the specifics of creative thinking in each specific case of professional activity. The use of the "Professional creative Thinking" technique carries not only diagnostic potential for studying professional creative thinking, but also correctional, because when performing this technique, the subject of creative activity not only evaluates himself and others according to the indicators of professional creative thinking, but also compares his indicators with those of other members of the group. Comparing one's own indicators of professional creative thinking with those of others allows one to better understand the severity of these indicators in oneself, which gives an incentive for interest, further study of creative thinking and self-improvement of the studied parameters of professional creative thinking. Advantages of the method: it allows you to look at the professional creative thinking of a particular subject from the environment, and at the same time allows the subject himself to think about the parameters obtained in the study, and if desired (possible) to think about ways to correct qualities that, from the point of view of the subject, are unacceptable (undesirable) for him when carrying out creative activities. As disadvantages, one can state some bias in the assessment due to a possible biased attitude (due to envy, resentment, etc.) towards the subject from his environment.

The model of creative thinking development within the framework of our concept includes three blocks: motivational-emotional, which contains such components that generate emotions of interest, passion for activities and others that activate and support the implementation of professional creative activities; cognitive-operational – processes of professional creative thinking, the flow of which allows you to carry out creative activities effectively.; personality-individual – qualities developed in the process of learning and individual life experience that allow the process of professional creativity to be carried out according to a special (individual) system (individual activity program). We distinguish the following levels of creative thinking: the pre-professional level - the indicators of thinking are expressed not lower than average values in comparison with the general population to which this subject belongs.; basic level – thinking features are developed at the level of the lower limit of the norm, professional level – indicators are developed at the level of the average limit of the norm; mentor – thinking features are developed at a high level, at the highest limit of the norm. [7]

Developing the concept of L.S. Vygotsky, we propose to identify three states (zones) of the level of professional creative thinking: actual creative thinking is something that the subject can do independently, based on the stock of knowledge, age characteristics, motivation and other psychological formations.; the zone of immediate development is what

the subject can do with the help of an adult (mentor and friend, colleague, etc.), a potential state, highlighting the immediate and long-term prospects for the development of professional creative thinking - what the subject can achieve in the near and long term in the field of professional creative thinking, based on the stock of knowledge and personal formations currently formed in the subject.

Individuals with high levels of professional creative thinking development gain competitive advantages that allow them to carry out professional activities more effectively than individuals with low and medium levels of professional creative thinking. There are three types of professional creative thinking that exist in modern society: logical, intuitive, and creative. A longitudinal study conducted in the USA has been considered, which showed that taking into account only the operational indicators of professional creative thinking manifested in creative activity (at the present time) does not allow us to fully assess the level of professional creative thinking. When assessing the level of professional creative thinking, a systematic, multicomponent consideration of this phenomenon is necessary. Only in the case of a systematic consideration of professional creative thinking is it possible to fully objectively assess the current, immediate and potential level of development of professional creative thinking.

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