

## **Psychological-Pedagogical and Methodological Peculiarities of Organizing the Teaching Process Based on the "4K" Model**

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**Abstract.** *This article discusses the psychological, pedagogical, and methodological features of organizing the teaching process based on the "4k" model, the advantages of the learning process based on the "4k" model, and the positive aspects of its practical implementation. At the new stage of society's development, attention is focused on the characteristics of improving the teaching system in primary education based on advanced foreign experiences, which is an important task facing this level of education.*

**Key words:** *"4k" model, learning process, critical thinking, creativity, communication, cooperation, analytical thinking, innovative thinking, originality, metacognition.*

At a new stage in the development of society, an important task facing primary education is the improvement of the teaching system based on advanced foreign experience. This task, in turn, requires the formation of creative potential in students for the modernization of the traditional teaching system.

In the world, the formation of "4K" competencies (critical thinking, creativity, communication, cooperation) is of great importance as a priority area for improving the quality of primary education. These competencies are sometimes called universal competencies, "soft skills," and have a meta-subject character. In the report of the Forum of the World Economic Cooperation Organization held in 2018, it was comparatively analyzed that in the future employers will pay special attention to the formation of skills in the first place - "analytical and innovative thinking," in the second place - "finding a holistic solution to problems," in the third place - "critical thinking and analysis," in the fourth place - "active reading and learning strategies," and in the fifth place - "creativity, originality, initiative." And in the analysis of this forum for 2022, it can be seen that "creativity, initiative, originality" rose to the third place.

Currently, many educators are paying great attention to the application of technologies for the development of developmental thinking, including critical thinking. In the pedagogical encyclopedic dictionary, thinking is defined as a psychological process of searching for and discovering something new, having a social connection with speech, the process of reflecting reality in a direct and generalized form during analysis and generalization. Thinking arises on the basis of moving from sensory cognition to practical activity<sup>1</sup>, is explained.

It is clear that the thinking process of a modern person is directly related to information: printed, audiovisual: "thinking requires strength, choice, providing grounds. If this process is not sufficiently

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<sup>1</sup> Педагогический энциклопедический словарь /Гл. ред. Б.М.Бим-Бад. – М.: Большая российская энциклопедия, 2003. – 528 с. – С.431.

developed, then people experience difficulties in independent thinking. They cannot assess the degree of reliability of the evidence.

The selection of information is carried out in connection with people's desires, interests, value orientation, age, and gender characteristics. One of the important factors of a creative approach to information and its evaluation is the critical nature of opinion. Criticism "requires the ability to act in a situation of choice and make alternative decisions, to refrain from making wrong decisions"<sup>2</sup>.

Critical thinking is a complex thinking process that begins with the assimilation of information and ends with drawing conclusions. For people who think critically, that is, consciously, analytically, simple understanding of information is not the final stage of learning, but a point of transmission.

A student with critical thinking is familiar with certain ideas and can see the consequences of their subsequent implementation. At the same time, he accepts the results less convincingly and compares them with opposing viewpoints. To justify them, he constructs supporting systems of reasoning and, on this basis, determines his position. Critical thinking is a serious process of transforming thoughts and possibilities into a complex, creative whole, changing the essence of information and concepts, and re-examining them<sup>3</sup>. In short, critical thinking is a high level of cognitive activity.

Critical thinking is not formed just by giving a prescription or taking "seven steps" towards it. Critical thinking is not the subject of study, but the result of teaching. This is the starting point for human thinking. It allows the learner to strictly control the information, so that students can assimilate, collect, reconstruct, adapt, or disregard the information. This occurs when students ask questions like: "What significance does this information have for me?," "How can I use this knowledge?," "How does this knowledge interact with the knowledge I have acquired?," "Is this information useful?," "How do I view these ideas?," "What consequences might the implementation of these ideas have for me and others?"

The term "critical thinking" has been used in the pedagogical environment for several decades, and different educators understand this concept differently. For most teachers and methodologists, critical thinking represents "high-order" thinking, that is, it stands at the last level of learning abilities. From a philosophical point of view, critical thinking is usually understood as the skills of logical thinking and argumentation. With its help, students have the opportunity to read attentively, engage in in-depth discussions, and express their thoughts clearly and thoughtfully in writing. Applied to literary education, a "critical" approach is an approach to the text that helps to distinguish the components of the text and critically re-examine the ways the text affects the reader, as well as to identify the reasons that the author followed in creating the work. In our opinion, it is not advisable to try to give a full definition of the term "critical thinking". This list is endless, because it is, in essence, a list of a person's entire intellectual potential.

D. Halpern identifies a number of qualities related to the critical thinking of the individual. These qualities include: 1) readiness for planning; 2) flexibility; 3) firmness; 4) readiness to correct one's mistakes; 5) comprehension and analysis of personal judgments; 6) search for solutions based on mutual agreement<sup>4</sup>.

The American researcher, Professor D. Cluster, identified the following features of critical thinking:

- critical thinking is, first of all, independent thinking;
- information is the beginning of critical thinking, but not the endpoint;
- critical thinking begins with the posing of questions and identifying the problem that needs to be solved;
- critical thinking strives for convincing arguments;

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<sup>2</sup> Столбникова Е.А. Развитие критического мышления студентов педагогического вуза в процессе медиаобразования (на материале рекламы). – Таганрог: Изд-во Кучма, 2006. – 160 с. – С.75.

<sup>3</sup> Федоров А.В. Развитие медиакомпетентности и критического мышления студентов педагогического вуза. – М.: Издательство МОО ВПП ЮНЕСКО «Информация для всех», 2007. – 616 с.

<sup>4</sup> Халперн Д. Психология критического мышления. – СПб., 2000. – 220 с. – С.56.

➤ critical thinking is social thinking<sup>5</sup>.

Firstly, critical thinking is independent thinking.

As the activity is built on the principles of critical thinking, each participant has their own idea, assessment, and belief, independent of others. No one will think critically for us. We can think this way only for ourselves. Therefore, thinking can be called critical thinking only when it has an individual characteristic. Students should have their own mind, thinking, and freedom to find answers to even the most complex questions. Each student decides for themselves how to think. Thus, independence is one of the most important aspects of critical thinking.

Secondly, information is not the result of critical thinking, but its beginning. Knowledge serves as a motivation for critical thinking. To find solutions to complex problems, it is necessary to process the necessary "raw material" - facts, ideas, texts, theories, data, concepts.

Thirdly, critical thinking begins with identifying the problem that needs to be posed and solved. Humanity is curious by nature. When we notice something new, we definitely want to know its essence. When we see some historical monument, we feel a desire to go inside it.

Fourthly, critical thinking strives for convincing arguments. A person with critical thinking finds their own solution to the problem and reinforces this decision with rational, well-founded arguments. He also acknowledges that other decisions are possible, but tries to prove that the decision he chooses is the most logical and rational compared to others.

Fifthly, critical thinking is connected with sociality and is also important for everyday activity. Any thought becomes sharp only when shared with others. When we argue, read, participate in discussions, object, and exchange opinions with others, we clarify and deepen our point of view. Therefore, teachers working in the direction of critical thinking strive to use various forms of pair or group work in their classes, effectively using debates and discussions, as well as various forms of presenting students' written works. In general, any critical-thinking person has the ability to work in a team and only solves a much broader range of tasks than their capabilities.

That is why a teacher working in the direction of critical thinking pays more attention to the formation of qualities necessary for effective exchange of ideas, such as: composure, learning to listen to others, responsibility for one's own opinion. Thus, these teachers manage to bring the learning process closer to real life outside the classroom.

Critical thinking is more pronounced in written work. The process of thinking can be observed in writing, and this also creates convenience for the teacher<sup>6</sup>. A writing student is always active. He always thinks independently and uses all the knowledge he has. He lists enough convincing arguments to support his opinion. Moreover, by its nature, it has a social character. Because a letter writer writes it for the reader. The most valuable thing for a student is the teacher's interest and respect for their work, the opportunity to share their thoughts with classmates, other teachers, parents, and even strangers. Therefore, writing can be considered the most important tool of critical thinking.

The foundations of critical thinking consist of three stages (phases): call (invitation), comprehension, and reflection (reflection).

Critical thinking begins with the so-called "challenge" stage, during which students' interest is awakened, necessary questions arise, and motives for acquiring such knowledge are formed. After this comes the stage of understanding the meaning, during which students receive an incentive to search, and in some cases even learn to do so. The thinking stage is the highest point, in this process students are presented with the ability to generalize their knowledge, compare what they have learned

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<sup>5</sup> Темпл Ч., Мередит К., Стил Дж. Как учатся дети: Свод основ. – М.: Издательство Института «Открытое общество», 1997. – 105 с. – С.7-11.

<sup>6</sup> Технология развития критического мышления в вузе: перспективы для школьного образования XXI века. – Н.Новгород: Арабеск, 2001. – 272 с.

with what they already have, apply the acquired knowledge, skills, and abilities in real situations, participate in discussions, and defend their point of view.

The importance of the challenge stage lies in the fact that the striving for new knowledge, for an independently chosen goal, is much stronger. At the conscription stage, several types of educational activities are carried out. Firstly, the student actively participates in the restoration of knowledge on this topic. This encourages them to analyze their knowledge and start thinking about a topic that will soon be discussed in more detail. After explaining the other two stages, the significance of the initial action becomes clear again.

The learning process is the process of ensuring feedback between new ones and those already known. The student's new concepts are built on existing knowledge and previously perceived ones. By helping students restore their existing knowledge and imagination, it is possible to create a broad foundation for long-term memorization of new information.

The second goal of the challenge stage is to activate the learners. Education is a type of activity that requires special striving and research.

Students must actively participate in the educational process so that they can consciously and thoroughly understand new information and take a critical approach to it. Students become more active by thinking based on the intended goal and expressing thoughts in their own words. Demonstration of knowledge (to oneself and a partner) occurs through active thinking using oral or written speech. Thus, previously acquired knowledge is brought to the level of understanding. Now they can serve as a basis for acquiring new knowledge. This allows students to effectively connect new information with previously known information, as a context for understanding has emerged.

The third goal of the challenge stage is to generate interest in considering the proposed topic and define the educational goal. Interest and clarity of purpose further increase student activity. Defining the goal is the most important component of the learning process.

At the awareness stage, new information is associated with the information activated at the challenge stage. The main task of this stage is, firstly, to support the interest and pace of movement, activity created during the challenge stage. Its second important task is to apply students' attempts to observe their own understanding. The analysis and evaluation of the subject's internal feelings by themselves is called reflection (sometimes metacognition). The most important task of this stage is to achieve understanding of the new educational material.

At the thinking stage, knowledge is consolidated, a complete understanding of the issue under study is formed, and an increase in the level of "literacy" is achieved. Such a change can occur only when the student achieves their independent learning goal. At the thinking stage, several important goals are planned to be achieved. First of all, students should try to express new ideas and information in their own words. Because only when students express and re-express what they have understood in their own words does it acquire a personally understood essence. The second goal of the thinking stage is to achieve a lively exchange of ideas between students, which allows them to expand their vocabulary and get acquainted with the ideas of other students.

**Creativity is the foundation for the future and serves to form the following significant qualities:**

- 1) professional competence;
- 2) business acumen (psychophysiological activity);
- 3) possessing intellectual abilities;
- 4) joint work, readiness for collective creative activity (communicativeness);
- 5) spiritual and moral perfection<sup>7</sup>.

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<sup>7</sup> Мардонова Г.М. Технология развития креативного потенциала общеобразовательной школы: диссертация ... канд.пед.наук. – Москва, 2006. – 156 с.

Creativity (from the Latin "create" - to create, "creative" - creator, creator) - expresses the meaning of the creative ability of an individual, characterizing his readiness to produce new ideas and being part of giftedness as an independent factor. A person's creativity is manifested in their thinking, communication, emotions, and certain types of activity. Creativity describes the personality as a whole or its specific characteristics. Also, creativity is reflected as an important factor of talent. Moreover, creativity determines sharpness of mind.

There are interpretations of this concept based on many points of view. According to I.P. Nikitina, the concept of "creativity" is not directly applied in the philosophy of art, but "a person constantly tries to go beyond their personal "boundary" - their capabilities, life, and their world"<sup>8</sup>. The basis of transcendence is a person's desire for self-transformation, emotions, creativity, and creativity.

From a psychological point of view, creativity is more often interpreted in relation to the general ability to create. Currently, this term means the search for unique solutions, the readiness to perform non-standard actions. In psychology, creativity is understood as "the development of a new idea, solution, methods, theories, or a new product of some activity"<sup>9</sup>.

In explaining the essence of the concept of creativity, Carl Rogers emphasized "the search for previously undefined solutions to the problem"<sup>10</sup>. R. Sternberg interprets creativity as "a person's abandonment of rigid ways of thinking"<sup>11</sup>. In connection with the psychology of art, the following point of view of Irji Kulka is of interest: "creativity is a psychologically healthy and acceptable self-expression of personality"<sup>12</sup>.

Among foreign scientists, P.Torrens<sup>13</sup> According to him, creativity represents: putting forward a problem or scientific hypothesis; testing and changing the hypothesis; identifying the problem based on the formation of decision results; sensitivity to the contradiction of knowledge and practical actions in finding a solution to the problem.

In conclusion, an important task facing primary education at a new stage of societal development is the improvement of the teaching system based on advanced foreign experience. This task, in turn, requires the formation of critical thinking, communication, cooperation, and creative potential in teachers for the modernization of the traditional teaching system.

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<sup>8</sup> Никитина И.П. Философия искусства: учебное пособие. – М.: Омега-Л, 2008. – 560 с.

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