

Ways to Develop The 4K Competencies in Students: Creativity, Critical Thinking, Communication and Cooperation

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Abstract: The article examines the implementation of developmental learning through the formation of subject competence. The content of subject competence in teaching economic disciplines and the methods of its formation are discussed.

Keywords: 4K concept, competency-based approach, competence, coordination, creativity, critical thinking, communication, collaboration.

Introduction: The current socio-economic situation creates a dynamic labor market: people do not choose a profession for life. Mobility, flexibility, critical, systemic and strategic thinking are emerging as essential competencies for successful professionals of the future. Numerous scientific studies and employer surveys show that in the ranking of important learning outcomes, subject-specific competencies (hard skills) are gradually being replaced by universal, highly professional qualifications (soft skills).

Furthermore, the most important characteristic of a modern employee is the ability to collaborate in a team across various roles, take responsibility for a specific department or an entire project, and work in conditions of significant challenges, risks, and reduced economic activity. In modern psychological and pedagogical practice, such skills are called “4K competencies of the modern personality.”

The concept of “21st century competencies” is new and only began to emerge in the 2010s. The term “21st century skills” is sometimes translated as “qualifications” in academic sources, but in fact it refers to competencies. This is explained by the differences in the concepts of “skill”, “ability” and “competence” found in the scientific literature.

To understand the versatility and applicability of talents in the professional activities of a modern specialist in any field, it is important to consider each competency separately. A number of studies have shown that the most in-demand competencies in a professional team are creativity, critical thinking, and teamwork skills. The development of these competencies is an important component of a modern specialist in the economic sphere.

What do we mean by the concept of “4K”?

1. First and foremost, this is critical thinking, which implies developed systems thinking, strategic thinking, and strategic action. In general, this type of thinking presupposes a holistic perception of a phenomenon or object, taking into account its various connections with other concepts. Critical thinking is the ability to manage the flow of information, recognize cause-and-effect relationships, filter out irrelevant information, and draw conclusions. Strategic thinking and action include planning work by setting goals and objectives. This is important when studying and organizing work.

2. Creativity is the ability to generate new concepts and unconventional solutions. The ability to generate original ideas, which is the basis of creative thinking, is an important component of modern technologies.

Through creative thinking, students can reframe situations, find innovative solutions, and feel more confident in any situation. A person with highly developed creative abilities is capable of creating and refining original concepts. Overcoming obstacles becomes an intriguing puzzle for them.

3. Communication is the development of effective written and oral communication skills. In modern society, the ability to communicate, understand, and decipher messages, as well as interact with others, is of paramount importance. Today, young people can contact anyone at any time via phone or text message, so it is very important to be able to communicate, establish connections, listen to others and express your point of view.

4. Collaboration is the ability to interact with others and organize group activities to achieve common goals. This term is closely associated with the professional sphere and communication. It refers to the ability to define a common goal and a strategy for achieving it, assign responsibilities, and evaluate results.

By breaking these skills down into their individual components, we can more clearly understand how universal they are and how applicable they are to other aspects of our professional lives. The 4K concept was created in response to employer demand, but developing these skills is important for more than just those seeking career advancement.

The basis for understanding critical thinking can be the approach formulated in the works of Karl Popper: we learn from mistakes, not from collecting data. The best conditions for critical thinking are social situations of communication and interaction: "I may be wrong, and you may be wrong, but by working together we can gradually get closer to the truth."

D. Hattie defines cognitive development in a similar way. For him, cognitive development, occurring during learning, is a social process facilitated by high-quality dialogue between students with the support of the teacher. It is important that any learning situation presents a cognitive conflict that becomes a challenge for the student's thinking.

Several skills formulated by a group of experts can be identified as the main elements of critical thinking.

1. Analysis. The ability to find connections between statements, questions, and arguments.

2. Evaluation. The ability to evaluate the reliability of statements and the persuasiveness of arguments.

3. Explanation (argumentation). The ability to explain your thought process and defend your conclusions.

4. Hypothesis generation (solution planning). The ability to formulate hypotheses and draw conclusions independently, identifying information gaps.

5. Self-regulation (control). Reflection, self-checking, and correction.

В отличие от критического мышления, описания креативности в работах разных авторов более вариативны. Мы придерживаемся следующего определения: креативность – способность представить и разработать принципиально новые подходы к решению проблем, ответы на вопросы, стоящие перед субъектом, или выражать идеи, применяя, синтезируя и видоизменяя знания.

"Creative and innovative thinking is a type of thinking that leads to insights, new approaches, fresh perspectives, and, in general, a new way of understanding and seeing things. The products of creative thinking include things like music, poetry, dance, literature, and technological innovation. But there's also the creation of connections between phenomena that opens up the possibility of seeing the world in a new way, through the imagination."

In developing the assessment of creativity, we relied on B. Lucas's model, which identifies individual components of creativity.

1. Curiosity (active interest in the task). Task situations, independent search for answers to questions, active search for new information, including from unexpected sources.

2. Idea generation (imagination). Generating one's own ideas. Two aspects stand out here: originality of proposed ideas and flexibility, the ability to generate a large number of ideas.

3. Development of proposed ideas: evaluation of ideas from different perspectives, identification of their strengths and weaknesses, ability to quickly restructure one's activities in changing conditions.

Effective communication is associated with the development of a person's communicative competence - the ability to express and interpret thoughts, feelings

and facts in oral and written form, as well as to communicate effectively in various social and cultural contexts.

The structure of this competence is presented as follows.

1. Willingness to communicate. Lack of fear when engaging in communication. Initiating communication, willingness to respond and ask questions.
2. Adaptation to the purpose and context of communication and to the partner. In various communication situations, the ability to select different verbal and nonverbal means of communication, focusing on the partner's emotional state.
3. Persuasive communication. The use of verbal (vocabulary and knowledge of language rules) and non-verbal means (gestures, facial expressions, intonation) to achieve communication goals.

Within the framework of various competency models, cooperation is understood as effective interaction with other people and effective work in various teams. Cooperation is described as the ability and willingness to ask for help, listen to other people's opinions and agree with other people's proposals, integrate one's individual part of the work into the overall work of the group during the team's work on a task, as well as identify one's contribution and evaluate the collective result.

The structure of this competence is presented as follows.

1. Adoption of shared goals. The ability to differentiate between teams and prioritize them above personal goals, work as a team, integrate one's own work into collective decisions, and manage one's emotions in teamwork.
2. Social interaction. Participation in discussions, ability to negotiate, listen to and accept the opinions of others, coordination with other team members, and a willingness to take responsibility for the overall result.
3. Fulfillment of obligations: readiness to take a position and accept a role that is effective for teamwork, responsible performance of one's part of the work, achieving high-quality results.
4. Independence and initiative. The ability to work independently and take initiative within the framework of the assigned task, the ability to engage all team

members in solving the problem, provide them with psychological support, and motivate them.

The development of students' ability to think independently and solve problems and creative tasks is defined as important learning outcomes in educational standards, which is impossible without the development of creativity and the formation of critical thinking. These competencies are high-order skills, but there is no formal assessment of them.

Another question arises: how to develop new competencies based on the content of the subject being studied? In other words, how to design and deliver lessons aimed at students' cognitive development by developing the "4Cs" competencies.

New forms of organizing students' educational activities and new ways of achieving educational results should be introduced into educational practice.

Main characteristics of the tasks:

- the learning task involves more than one or many possible solutions;
- at the center of the task is either a mini-project, or the creation of an educational product using non-standard means;
- the task makes it possible to develop a short plot within the given subject problem;
- the task requires an independent search for the necessary information in open sources;
- the task for a particular subject may involve finding and using information from other subjects.

Such tasks make it possible to independently delve into the subject. This opens up a vast field for work.

Learning situations of this type can rely on modern blended learning technologies that involve the use of ICT.

The Flipped learning strategy, or inverted learning, also fits well into creative learning situations, changing work in the classroom and at home in places: students study the material and look for the necessary information, and in the classroom they do practical work in a group.

In any case, when working with tasks of a new type, the roles of the teacher and the student are distributed differently than is customary in traditional training:

- students acquire independence in choosing a plan,

scope and forms of work, and the teacher provides an opportunity to show independence by choosing the appropriate task;

- students can act as an educator for each other, working as a couple or in a group. The teacher becomes a consultant for independently working teams;

- students take part in the assessment of both the results of the lesson and the work process using self-assessment tools. The teacher gets the opportunity to monitor the development of competence "4K."

For comparison, two descriptions can be given that distinguish a creative task from a traditional one.

Table 1.

Characteristics of a creative task

Characteristics of a creative task	Requirements for creative activity
Choice variability in students	Motivating students
No solution algorithm	Call creation (rather complex task)
Having Multiple Right Solutions	The educator may not have the right answer
Knowledge from different fields is attracted	Students may not know all the answers
Mandatory discussion during decision	Using Subject Knowledge
Group form of work	Develop your own product by team

Several important principles that will help develop an assignment for a creative lesson are offered by the author of the creative thinking model B. Lucas:

- the task allows you to observe and evaluate the skills formed;
- students can develop and supplement the task;
- the task gives the teacher the opportunity to conduct formative assessment;
- the teacher can use a whole range of pedagogical techniques: problem learning, game elements, design, experimentation, discussions;
- the task encourages students to show curiosity, use their own experience, cooperate.

At the next stage, it is necessary to answer the question: how to evaluate new competencies? Today, methods and tools to assess the extent to which students have formed creativity, critical thinking, communication and cooperation are the largest deficit.

Since we cannot measure critical thinking, problem solving, communication directly, it is necessary to use tools that allow us to assess the manifestations of these skills.

The problem is that there are few such tools. Traditional tools (answer choice tests (answer choice tests, closed questions, ranked scales) are good for measuring knowledge. Such tools cannot capture the process underlying complex skills to be modeled, demonstrated, and applied in changing environments.

The indicator can be behavior, product, achievement. For an objective assessment, it is necessary to create conditions in which competence will manifest itself, that is, tasks are needed that reflect the real life situations in which this competence is used. Most of the developed classes use tasks that simulate life situations.

All assessment instruments must meet key characteristics:

- built into the teaching and learning process;
- involve discussion of educational goals with students;
- provide feedback;
- strengthen the confidence and motivation of students;
- stimulate reflection and communication in the classroom.

As a result of the use of assessment tools, blocks of tested skills can be distinguished and their manifestation during the execution of tasks.

- critical thinking: analyzes, proposes hypotheses, solutions, argues, exercises control, gives an assessment).
- creative thinking: (offers ideas, applies basic skills in a non-standard situation, finds an original solution, continues to search for new ideas.
- communication: asks questions, answers classmates, asks incomprehensible, clarifies his ideas, eliminates conflict situations.
- cooperation: seeks help, builds his work into the overall work of the group, determines his contribution

to the overall work.

It can be noted that all proposed procedures are consistent and complementary. The presented approaches and tools are based on world experience.

Mastering new methods and designing new types of tasks takes time and effort, but all costs are repaid by the interest and activity of students in the classroom.

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