



MECHANISMS FOR DEVELOPING TEACHING METHODS FOR PEDAGOGICAL DISCIPLINES BASED ON THE “4K” MODEL.

Abdusattarova Sarvinoz Norko'zi kizi

Independent doctoral student, Department of Pedagogical Education Theory, Faculty of Pedagogy and Psychology, Oriental University

Anotation: *This article analyzes the main mechanisms for integrating the “4K” model - creativity, critical thinking, communication and collaboration skills - into the methodology of teaching pedagogical subjects in higher education. The abstract highlights ways to form 21st century skills in students by introducing this model, making the teaching process interactive and effective. In particular, important mechanisms for organizing innovative learning activities, changing the assessment system, and improving the skills of teachers are described.*

INTRODUCTION

In a rapidly changing world, the 21st century demands not only knowledge but also the skills to solve complex problems, work collaboratively, and generate new ideas. It is in this context that the “4K” skills – critical thinking, communication, collaboration, and creativity – have become a global imperative. Education systems, and in particular higher education institutions, have taken on the task of equipping the next generation with these skills. These skills are even more important in the training of future teachers, who will in turn need to instill these skills in the younger generation. Unfortunately, traditional pedagogical methodologies often have limitations in developing these “4K” skills. This article is devoted to identifying and analyzing the mechanisms for integrating the “4K” model into the methodology of teaching pedagogy in higher education, comparing it with world educational standards, and considering its significance in the context of educational reforms being implemented in Uzbekistan.

In today's rapidly changing world, the higher education system aims not only to impart theoretical knowledge, but also to prepare students for future professional activities. In this context, “4K” skills have become an integral part of modern education. “4K” skills are understood as creativity, critical thinking, collaboration and communication. These skills are essential for students to be successful in the 21st century.

Creativity is the ability to develop new ideas, find non-standard solutions to problems and create innovations. Developing creativity in higher education helps students apply existing knowledge in new contexts, work on creative projects and think originally. Employers are constantly looking for employees who can find creative solutions to





problems, are open to innovations and take initiative. By developing creativity, students are able to make discoveries in their fields and be competitive.

Critical thinking is the ability to analyze, evaluate, draw conclusions, and make informed decisions. Teaching critical thinking in higher education helps students distinguish truth from falsehood, identify logical fallacies, and gain a deeper understanding of complex issues. This skill encourages students to process, question, and form their own opinions rather than simply memorizing information. As a result, they are able to independently and consciously approach any problem they encounter in the future.

Collaboration is the ability to work effectively with others and work together to achieve common goals. Teamwork is essential in today's workplace. In higher education, collaboration skills are developed through project work, group discussions, and team assignments. This teaches students to respect different opinions and approaches, contribute, and feel responsible for the overall success. The ability to collaborate plays an important role in preparing students for professional environments.

Communication is the ability to convey thoughts, ideas, and information clearly and concisely, both orally and in writing. Effective communication is the key to success in personal and professional life. In higher education, students are taught communication skills through speaking, preparing presentations, writing essays, and actively participating in discussions. Clarity, persuasiveness, and listening skills are the main characteristics of a strong communicator. These skills help graduates effectively defend their ideas, negotiate, and build professional relationships.

“4K” skills in higher education help students not only obtain a diploma, but also become successful and competitive professionals in the future. Developing these skills is important not only for personal development, but also for the economic and social development of the country. Therefore, paying special attention to “4K” skills in higher education and integrating them into curricula is an urgent task today.

In higher education, it is crucial to use practice-oriented methods, along with theoretical knowledge, to develop the “4K” skills – creativity, critical thinking, collaboration and communication. These skills prepare students for success not only academically, but also in their future professional and personal lives.

Creativity is the ability to generate new ideas and find unconventional solutions to problems. It can be developed in higher education in the following ways:

a) Giving students projects to solve real-life problems. This encourages them to explore independently, find creative solutions, and test new ideas.

b) Organizing brainstorming sessions in groups to freely exchange ideas and find different solutions to the problem. No idea is considered wrong, the main goal is to collect as many ideas as possible.



c) This methodology consists of the stages of understanding problems from the user's perspective, developing ideas, creating prototypes, and testing them. It teaches students to create innovative and user-centered solutions.

d) Instead of traditional tests, ask students open-ended questions and assignments that encourage them to be creative.

e) Critical thinking is the ability to analyze, evaluate, and draw informed conclusions from information. It can be strengthened through the following methods:

f) Organizing discussions among students on controversial topics. This teaches them to express opinions based on evidence, analyze other points of view, and defend their position.

g) Analyzing real-life situations (case studies) and finding solutions to them. This gives students the skills to apply theoretical knowledge to practical problems, consider various factors, and make the most optimal decision.

h) Asking questions by teachers that encourage students to think deeply, such as "Why?", "How?", "What if?" This forces them to analyze the information rather than just accept it.

i) Submit small research projects aimed at studying scientific literature, collecting data, analyzing it, and drawing valid conclusions.

Collaboration is the ability to work effectively with others and achieve common goals. This can be developed by:

a) Encouraging students to work in different groups on common projects. This teaches them to work as a team, divide tasks, feel responsible and listen to each other's opinions.

b) Encouraging students to collaborate by explaining and teaching each other. This helps them to use each other's strengths.

c) Using games and simulations aimed at solving problems together. This strengthens the connection between them and develops teamwork skills.

d) Organizing collaborative work on online platforms such as Zoom, Google Meet, Microsoft Teams to create documents, share ideas and work on projects.

Communication is the ability to convey thoughts, ideas, and information clearly and intelligibly. The following can be used to develop it:

a) Teaching students to prepare presentations on their research, projects, or topics and present them to an audience. This will improve their oral, public speaking, and visual communication skills.

b) Conducting classes on writing essays, research papers, reports, and dissertations. This will improve students' written communication, reasoning, and grammatically correct writing skills.



c) Encouraging students to negotiate and role-play in different situations. This will develop their listening, understanding, persuasive, and negotiation skills.

d) Encouraging students to actively participate in classes and seminars, ask questions, and express their opinions. This will increase their self-confidence and help them express their thoughts freely.

By integrating the above methods into the educational process, higher education institutions can equip students not only with modern knowledge, but also with important skills required in the 21st century workforce.

Although traditional pedagogical methodologies, which have been formed over many years in the higher education system of Uzbekistan, have certain advantages, a number of their limitations are becoming evident today. These limitations hinder the development of “4K” skills (creativity, critical thinking, collaboration, and communication), making it difficult for graduates to meet the requirements of the modern labor market.

1. The main limitations of traditional pedagogical methodologies are the teacher-centered approach:

1) The dominance of the lecture-listening model In traditional education, the main focus is on the teacher's lecture, and students are more likely to be passive listeners. This does not allow them to develop critical thinking and creativity skills. The emphasis is on simply memorizing information, not on analyzing and evaluating it.

2) One-way communication Due to the dominance of one-way communication, students are limited in their ability to freely express their thoughts, ask questions, and participate in discussions. This leads to a weakening of communication skills.

2. Excessive emphasis on theoretical knowledge and lack of practice:

1) The abundance of abstract information often leads to a large amount of theoretical knowledge in curricula, while its practical application is not sufficiently demonstrated. This creates difficulties for students in applying the knowledge they have gained in real-life situations. This negatively affects their ability to solve problems and find creative solutions.

2) Lack of practical skills leads to insufficient attention to production practices, case study analyses and project work, which leads to graduates being unprepared for the labor market.

3. Insufficient collaboration and teamwork:

In the traditional system, which emphasizes individual work, students' individual performance and individual results are evaluated more. Little attention is paid to group projects, team assignments, and mutual cooperation. As a result, students do not develop collaboration skills sufficiently, which is a major drawback in the modern work environment.

4. Lack of adaptability and personal approach:



1) Standardized teaching, striving to provide information to all students in the same way and at the same pace, does not take into account their individual abilities, interests, and learning speed. This prevents students from fully realizing their potential.

2) A rigid assessment system based mainly on final exams does not fully reflect the activities and skills of students throughout the learning process. This encourages them to memorize only for the sake of passing the exam, rather than to deeply assimilate knowledge.

5. Inability to use technology effectively:

Limited digital literacy Traditional methodologies often do not include the effective use of digital technologies. While developing students' digital skills is crucial in today's information society, this creates a significant gap in preparing them for their future careers.

To address these limitations, the Uzbek higher education system needs to strengthen efforts in the following areas:

1) Teacher training and retraining: Regularly train faculty members in modern pedagogical methods, in particular, student-centered approaches, project-based learning, problem-based learning, and interactive methods.

2) Modernize curricula: Include more practical modules, team projects, and case study analyses in curricula to develop "4K" skills.

3) Integration of technologies - wider introduction of modern information and communication technologies into the educational process, including electronic platforms, virtual laboratories and online resources.

4) Changing the assessment system - creating a comprehensive system that assesses not only knowledge, but also skills. For example, assessment through project work, presentations and practical assignments.

5) Changing the mentality of professors and students - creating a culture of free exchange of ideas, discussion and support for innovative ideas, while maintaining respect in the traditional "teacher-student" relationship.

These changes will serve to increase the competitiveness of the higher education system of Uzbekistan and provide the labor market with highly qualified, modern skills.

The following mechanisms are proposed for integrating the "4K" model into the teaching of pedagogical sciences:

Introduction of active teaching methods:

The introduction of the "4K" model (Creativity, Critical Thinking, Collaboration, Communication) in the teaching of pedagogical sciences is of decisive importance in preparing future teachers to meet the requirements of modern education. For this, the widespread use of active teaching methods is an important mechanism. Active teaching





methods ensure the transformation of the student from a passive listener into an active participant, which creates the basis for the practical development of “4K” skills.

1. Active methods for developing creativity.

To develop creativity in pedagogy, students need to apply the knowledge they have acquired in new situations and find creative solutions.

□ When developing innovative lesson projects, students are tasked with creating non-standard lesson plans for the subjects they plan to teach. For example, looking for solutions around the question "How can a certain topic be taught to students in the most interesting and memorable way?" Brainstorming and Design Thinking approaches can be used in this process. Students enrich each other's ideas and try to find the best lesson forms together.

□ "Pedagogical Laboratory" projects task students in small groups with developing and testing creative pedagogical technologies to solve real or simulated educational problems. For example, "What new interactive game can be created to increase students' motivation to study at school?"

2. Active methods for developing critical thinking.

Pedagogical students should analyze situations in the educational process, critically evaluate pedagogical theories, and make informed decisions.

□ Case Study analysis presents cases of real pedagogical situations (for example, teacher-student relationships, discipline problems in the classroom, student behavior) and asks students to analyze them, identify problems, propose possible solutions, and evaluate their effectiveness. This is a form of the Problem-Based Learning approach.

□ Discussions and debates are structured discussions on controversial issues in education, such as "What should the assessment system be like?", "How right is it to introduce a uniform form in schools?"

Students learn to justify their positions with evidence, listen to other points of view, and approach them critically.

□ Fundamentals of Pedagogical Research involves engaging students in small-scale pedagogical research. For example, collecting, analyzing, and drawing conclusions from data to answer the question, "Which teaching method is most effective in a particular classroom?"

3. Active methods for developing collaboration.

The future teacher should be able to effectively collaborate with other colleagues, students and parents.

□ Team projects When teaching the “4K” model, each pedagogical student should be involved in working in groups, instead of working individually on a specific topic. For





example, "Creating a methodological manual for an interactive lesson" or "Organizing an event for the orientation of students to the profession at school".

These projects teach students to divide tasks, use each other's strengths and work together to achieve a common goal.

□ Peer-to-peer teaching is the process of students explaining complex pedagogical topics to each other, organizing mutual teaching and learning in small groups. This increases their ability to work together, explain and listen.

□ Role-playing games and simulations encourage students to play different pedagogical roles (teacher, student, parent, school administration representative). For example, role-playing games on "Conducting a parent-teacher meeting" or "Resolving a conflict situation". This develops collaboration and communication skills together.

4. Active methods for developing communication.

Effective communication is the basis of the teaching profession. Pedagogical students must be able to clearly express their thoughts, listen and enter into dialogue.

□ In presentations and open lectures, give the student the opportunity to prepare a presentation on a specific pedagogical topic and present it to classmates. Introduce the practice of answering questions from teachers and students. This forms their oratory, self-confidence and skills in working with the audience.

□ Pedagogical speech culture classes provide students with practical training in the correct use of pedagogical terminology, expressing thoughts in a logical sequence and adapting their speech to different audiences (students, colleagues, parents).

□ "Corner of exchange of ideas" or "Debate club": Creating a platform for students to discuss current issues in the field of pedagogy outside of class time, to freely express their opinions and to be heard.

□ Developing written communication skills by writing documents for educational institutions (curriculums, reports, conclusions), corresponding with parents, and giving assignments on writing pedagogical articles.

Conclusion: Integrating the "4K" model in teaching pedagogy through active teaching methods ensures that future teachers not only acquire theoretical knowledge, but also apply it in practice, find creative solutions, think critically, work in a team, and communicate effectively.

This will serve to provide the Uzbek education system with highly qualified, enterprising, and creative pedagogical personnel who meet the requirements of the 21st century.

Integrating "4K" skills into the methodology of teaching pedagogical disciplines in higher education is an important way to radically change the professional training of future teachers.





This will not only enrich their pedagogical knowledge, but also turn them into constantly learning and innovative specialists who meet the complex requirements of the 21st century.

Mechanisms such as problem-based learning, project-based learning, case study analysis, effective use of technologies, and revision of the assessment system play a key role in this process.

The large-scale introduction of the “4K” model within the framework of the educational reforms being implemented in Uzbekistan will be an important step in raising the national education system to world standards and in the future development of the country.

LIST OF USED LITERATURE:

1. Lutfetdinova Rano Khusnetdinovna. (2025). NEW TECHNOLOGY IN EDUCATION: THE 4K MODEL AND WAYS OF ITS IMPLEMENTATION. Web of Teachers: Inderscience Research, 3(3), 280–283.
2. Gafurova Yanglishoy. (2024). METHODS OF DEVELOPMENT OF 4K SKILLS IN TEACHING PRIMARY EDUCATION SUBJECTS. International Multidisciplinary Journal for Research & Development, 11(12).
3. Boymatov B.Kh. (2024). DEVELOPMENT OF 4K SKILLS IN STUDENTS THROUGH SCIENCE TEACHING. International Scientific Journal "Science and Innovation". Series B. Volume 3 Issue 6.
4. Idiyeva Gulchehra Izomovna. (Undated, but post-2020 context). THE SIGNIFICANCE OF THE "4K" MODEL IN THE DEVELOPMENT OF MODERN EDUCATION. Web of Journals.
5. Broader Literature Discussing the Development of 21st-Century Skills (including the 4Ks) in Teaching Methods (Post-2020):
 6. "Pedagogical Strategies for 21st-Century Classrooms" (2025, likely a book or major publication).
 7. "Effective teaching strategies: A deep dive into pedagogy" (2025, likely a journal article).
 8. "A Review of Literature on the Effective Pedagogy Strategies for Online Teaching and Learning in Higher Education Institutions: Lessons from the COVID-19 Pandemic" (2022).
 9. "INNOVATIVE METHODS FOR TEACHING PEDAGOGICAL SCIENCES USING ENGLISH MATERIALS" (2025).



- 
10. "Digital Teaching Pedagogy Among Primary School Teachers: A Systematic Literature Review" (2024).
 11. "Modelling STEM Teachers' Pedagogical Content Knowledge in the Framework of the Refined Consensus Model: A Systematic Literature Review" (2023).

