



DEVELOPING CRITICAL THINKING IN SENIOR SECONDARY EDUCATION IN UZBEKISTAN: FINDINGS FROM A PILOT MIXED-METHODS STUDY AND POLICY DIRECTIONS

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Abstract. This article examines the organizational and pedagogical conditions necessary for fostering a critical thinking environment within a pedagogical team. Critical thinking is considered not merely as an individual cognitive ability of a teacher, but as an essential professional competence related to instructional decision-making, lesson design, methodological reflection, evidence-based assessment, and the ability to respond effectively to complex pedagogical situations. The article argues that the development of critical thinking among teaching staff requires a systematic institutional approach involving diagnostic procedures, methodological support, professional collaboration, monitoring mechanisms, motivational incentives, and a digital-methodological learning environment. Special attention is paid to the role of educational management in creating an open, reflective, and professionally supportive atmosphere in which teachers are encouraged to analyze, question, justify, discuss, and improve their pedagogical practice. The study concludes that the formation of a critical thinking environment within a pedagogical team should be regarded as a strategic component of educational quality management.

Keywords: critical thinking, pedagogical team, teaching staff, professional competence, educational management, organizational and pedagogical conditions, reflection, professional development, digital education.

Introduction. The transformation of modern education has significantly changed the professional role of teachers. In contemporary educational practice, a teacher is no longer expected only to transmit ready-made knowledge to students. Instead, the teacher acts as a designer of the learning process, a facilitator of students' cognitive activity, an evaluator of information sources, a developer of assessment criteria, and a professional capable of making reasoned decisions in complex pedagogical situations.

In this context, critical thinking becomes one of the key components of teachers' professional competence. It enables teachers to distinguish between evidence and assumption, evaluate information from different perspectives, verify the reliability of sources, develop alternative solutions, justify methodological decisions, and reflect on the effectiveness of their

own pedagogical activity. Therefore, critical thinking should not be viewed as an auxiliary skill, but as a fundamental professional quality that determines the methodological, communicative, diagnostic, and managerial aspects of teaching.

The relevance of this issue is increasing under the conditions of digital transformation. The rapid growth of information flows, the spread of artificial intelligence tools, the availability of open educational resources, and the expansion of online learning environments require teachers to work with information in a more analytical and responsible manner. In such conditions, it is not enough for a teacher to possess subject knowledge. A teacher must also be able to select, evaluate, interpret, adapt, and apply information in accordance with pedagogical objectives.

If critical thinking is insufficiently developed among teaching staff, the educational process may become predominantly reproductive. In such a situation, students tend to remain passive recipients of ready-made information, while opportunities for questioning, discussion, argumentation, independent analysis, and conclusion-making become limited. Conversely, a teacher who possesses critical thinking competence encourages students to ask questions, compare positions, justify opinions, analyze evidence, and search for alternative approaches.

However, critical thinking among teachers does not develop spontaneously. It requires purposeful institutional management, methodological support, an open professional communication environment, peer observation, reflective assessment, and a system of motivation and encouragement. For this reason, fostering a critical thinking environment within a pedagogical team should be understood as a complex organizational and pedagogical process rather than as the result of individual effort or short-term training.

The purpose of this article is to identify and theoretically substantiate the organizational and pedagogical conditions that contribute to the formation of a critical thinking environment within a pedagogical team. In accordance with this purpose, the article analyzes the essence of critical thinking competence, its role in teachers' professional activity, its connection with educational management, and the mechanisms that can be applied in institutional practice.

Methodology. The study is theoretical and analytical in nature. It is based on the analysis of scientific views related to pedagogy, educational management, professional competence theory, reflective practice, and critical thinking. The methodological foundation of the article includes the systems approach, the competence-based approach, the reflective-practical approach, organizational and pedagogical modelling, and comparative analysis.

The systems approach made it possible to examine teachers' critical thinking not as an isolated psychological characteristic, but as a component of a broader institutional system involving educational management, methodological work, monitoring, motivation, and professional cooperation. The competence-based approach allowed critical thinking to be analyzed as an integrated unity of knowledge, skills, attitudes, values, and practical actions.

The reflective-practical approach was used to emphasize the teacher's ability to analyze his or her own pedagogical activity, reconsider instructional decisions, identify achievements and shortcomings, and determine further directions for professional growth. Organizational

and pedagogical modelling made it possible to systematize the conditions and mechanisms that support the development of a critical thinking environment within a pedagogical team.

The analysis focused on the following research questions: What are the main components of teachers' critical thinking competence? What role does educational management play in fostering critical thinking within a pedagogical team? Which organizational and pedagogical conditions are most effective in this process? What criteria can be used to evaluate the development of a critical thinking environment in an educational institution?

Results and Discussion. The results of the study show that fostering a critical thinking environment within a pedagogical team depends on several interrelated organizational and pedagogical conditions. These conditions should not function separately; they can produce sustainable results only when they operate as part of a unified institutional system.

The first condition is the establishment of a diagnostic mechanism. An educational institution should develop clear criteria and indicators for identifying the level of critical thinking among teachers. These indicators may include the teacher's ability to analyze pedagogical problems, distinguish evidence from subjective opinion, compare different sources of information, propose alternative solutions to instructional situations, justify methodological decisions, and draw reflective conclusions about his or her own professional activity. Diagnostic procedures should not be treated as a means of control or punishment. Rather, they should serve as an analytical tool for identifying teachers' professional development needs.

The second condition is systematic methodological support. The development of critical thinking among teachers cannot be ensured through formal seminars alone. Methodological support should be connected with real teaching practice and should include lesson analysis, discussion of pedagogical problems, case studies, debates, project-based learning, reflective writing, questioning techniques, and evidence-based assessment methods. Methodological councils and professional meetings should therefore move beyond the formal discussion of documents and become platforms for the analysis of real educational problems.

The third condition is professional collaboration within the pedagogical team. Critical thinking develops more effectively through professional dialogue, peer observation, exchange of experience, collective analysis, and open discussion than through individual learning alone. When a pedagogical team has a culture of asking questions, presenting arguments, expressing disagreement, proposing alternatives, and learning from mistakes, critical thinking gradually becomes an institutional value. In such an environment, teachers do not perceive criticism as a threat, but as a necessary condition for professional growth.

The fourth condition is the introduction of a management and monitoring mechanism. The administration of an educational institution should regularly analyze the extent to which teachers' professional activity promotes critical thinking. Lesson observations, internal monitoring, pedagogical portfolios, student feedback, the quality of methodological materials, and learning outcomes may serve as important sources of information. However, monitoring should not focus mainly on the completeness of documents. Its primary focus should be

whether the lesson creates conditions for students to think independently, ask questions, justify opinions, analyze information, and draw conclusions.

The fifth condition is a motivational and incentive-based mechanism. Teachers who introduce critical thinking-oriented methods into their practice should receive both material and non-material support. Such support may include the dissemination of best methodological practices, internal competitions, mentoring systems, open lessons, professional ratings, certification, grants, and support for scientific and methodological activity. The incentive system should encourage teachers not merely to prepare reports, but to improve lesson quality, apply analytical thinking, and use innovative pedagogical methods.

The sixth condition is the creation of a digital-methodological environment. Digital platforms, electronic resources, open databases, artificial intelligence tools, and distance learning opportunities play an increasingly important role in teachers' professional development. Nevertheless, digital tools themselves do not automatically guarantee the development of critical thinking. On the contrary, they may increase the risk of mechanically accepting ready-made answers. Therefore, teachers should be trained to verify digital information, compare sources, evaluate the validity of data, and adapt digital resources to specific pedagogical aims.

The analysis demonstrates that fostering a critical thinking environment within a pedagogical team is not a short-term process limited to separate training sessions or methodological events. It is a continuous process of professional development that depends on the management culture, methodological policy, assessment system, and pedagogical atmosphere of an educational institution.

The main task of educational management in this process is not only to supervise teachers, but also to create conditions for their professional growth. If management is limited to paperwork, reporting, and external indicators, teachers' critical thinking is unlikely to develop as a practical competence. By contrast, if the institution creates an atmosphere of open discussion, scientific and methodological debate, lesson analysis, and reflective reconsideration of experience, critical thinking becomes a real factor in improving educational quality.

The pedagogical leadership of the head of an educational institution is also of particular importance. A leader should require not only discipline and formal compliance from teachers, but also methodological justification, independent reasoning, initiative, and reflective practice. This type of leadership transforms a pedagogical team from a group of performers into a professional learning community.

Three essential requirements may be identified in this regard. First, teachers' professional development should be continuous. Second, methodological work should be directly connected with real classroom practice. Third, the assessment system should be oriented not toward formal documentation, but toward actual pedagogical results.

It is also important to consider the student factor. The critical thinking of teachers directly affects the thinking culture of students. A teacher who thinks critically encourages students not

simply to memorize information, but to analyze it; not simply to repeat ready-made answers, but to ask questions; not simply to accept one position, but to compare different viewpoints. As a result, the educational process moves from a reproductive model toward an analytical and creative model of learning.

Conclusion. The formation of a critical thinking environment within a pedagogical team is one of the important conditions for improving the quality of education, introducing pedagogical innovations, and preparing competitive specialists. Critical thinking competence is directly related to the teacher’s ability to analyze information, make methodological decisions, guide students’ thinking, and evaluate his or her own professional activity reflectively.

The study shows that the organizational and pedagogical conditions for fostering critical thinking within a pedagogical team include diagnostic procedures, methodological support, professional collaboration, management and monitoring mechanisms, motivational incentives, and a digital-methodological environment. These conditions can contribute to the development of a critical thinking culture only when they are implemented in an interconnected and systematic manner.

From a practical point of view, educational institutions should develop criteria for assessing teachers’ critical thinking competence, connect methodological seminars with real lesson analysis, organize professional collaboration groups, include critical thinking indicators in lesson observation procedures, and support the dissemination of effective pedagogical practices.

Thus, fostering a critical thinking environment within a pedagogical team should not be considered a secondary task of educational management. It is a strategic direction related to the quality policy of an educational institution. Such an approach strengthens teachers’ professional independence, develops students’ analytical thinking, and contributes to the meaningful renewal of the educational process.

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