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Components of Critical Thinking in Future Primary Teachers

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Abstract: The article covers the essence of critical thinking in future primary school teachers and its components from a pedagogical point of view. The specifics of cognitive, motivational, reflexive, communicative and practical components of critical thinking are revealed and their role in the professional formation of future teachers is substantiated. It also analyzes modern pedagogical approaches to the development of critical thinking and their role in the educational process. It is emphasized that the development of these components will manifest itself as an important factor in the independent thinking of future primary school teachers, analyzing problematic situations and making effective pedagogical decisions.

Keywords: Critical thinking, primary education, future teacher, structural components, cognitive component, reflection, pedagogical competence, independent thinking, communicative activity, innovative approach.

Introduction: The increase in the volume of information in the educational process, the sharp increase in various sources, and the complexity of pedagogical activity require future teachers not only to simply assimilate existing knowledge, but also to evaluate it based on an analytical and reflexive approach. In particular, the thinking culture of a teacher working in the primary education system, his attitude to problem situations, and the competence to make informed pedagogical decisions directly affect the intellectual development of students. In this regard, the issue of forming critical thinking in future primary school teachers is gaining importance as one of the important structural directions of pedagogical training.

In the pedagogical education system, the formation of independent and critical thinking skills in future primary school teachers for professional activity is an important pedagogical need. Because at the primary education stage, the teacher is not only a subject of knowledge, but also a pedagogical person who guides the thinking activity of students, develops their analytical and creative abilities. Therefore, the ability of future teachers to critically analyze information, evaluate pedagogical situations, and make informed decisions is considered one of the important indicators of modern professional competence. However, in the practice of higher pedagogical education, most approaches to the development of critical thinking are limited to general methodological recommendations, and its structural structure and components are not sufficiently systematized. As a result, some pedagogical problems related to the comprehensive development of cognitive, reflexive, motivational, and communicative aspects of critical thinking in future primary school teachers remain. This situation creates the need for a scientific analysis of the structural components of critical thinking and clarification of their pedagogical content.

The problem of critical thinking has been studied by many foreign and domestic scientists in the fields of pedagogy, psychology, and philosophy. In particular, John Dewey interpreted critical thinking as a reflexive thinking process, paying special attention to a person's deep analysis of the problem and the formation of well-founded conclusions. In his opinion, reflexive thinking is characterized by a person's reconsideration of any idea or knowledge based on evidence. Robert Ennis also defines critical thinking as

"rational and reflexive thinking aimed at determining what to do or believe." This approach emphasizes analysis, evidence evaluation, and logical decision-making. Richard Paul and Linda Elder define critical thinking as a complex cognitive activity involving intellectual standards and reflexive control.

From a psychological perspective, critical thinking is inextricably linked to higher-level thinking operations such as analysis, synthesis, comparison, generalization, and evaluation. In pedagogical research, this concept is more often viewed as an important basis for the competence of independent thinking, problem solving, and organizing innovative pedagogical activities.

The diversity of scholarly approaches indicates that critical thinking cannot be reduced to a single cognitive skill or intellectual operation. Rather, it represents a holistic and dynamic process that combines knowledge, values, reflection, communication, and practical action. Contemporary pedagogical research increasingly emphasizes the systemic nature of critical thinking and its role in professional competence development. In this context, the effectiveness of critical thinking depends not only on the mastery of analytical skills but also on the individual's motivation, self-regulation, and ability to apply knowledge in practice. Therefore, understanding the internal structure of critical thinking becomes essential for identifying the factors that contribute to its development in future teachers. This perspective provides the basis for examining critical thinking as a multi-component pedagogical construct.

Theoretical analyses show that critical thinking has a multi-component structure, and its effective formation depends on the interaction of factors of motivational, reflexive, communicative and practical activity, along with cognitive processes. In this regard, the study of the structural components of critical thinking as a separate pedagogical system is of scientific and practical importance.

The integrative nature of critical thinking in pedagogical activity is especially evident in the process of primary education. For example, one of the practical manifestations of critical thinking is not the immediate rejection of an incorrect or biased opinion expressed by a student by a teacher, but rather the guidance of the student to draw an independent conclusion through questions, analysis and discussion. Such an approach requires the teacher to analyze the situation, compare different points of view, make reflective assessments and make pedagogical decisions based on communicative cooperation, or the use of problem tasks, logical questions and interactive methods in primary school lessons not only helps students acquire knowledge, but also develops their skills in substantiating, justifying and analyzing ideas. In this process, it is important for the teacher to have a sufficiently developed critical thinking competence. Because the critical approach of the teacher directly affects the thinking activity of students. From this point of view, it is of great methodological importance to scientifically identify the structural components that make up the internal structure of critical thinking and analyze their interrelationships. These components are manifested as one of the important factors determining the professional training and effectiveness of the pedagogical activity of the future primary school teacher. The effective development of these components ensures the formation of an integrated system of critical thinking skills in future teachers. Each component performs a specific function while simultaneously interacting with the others in a unified pedagogical framework. The cognitive component provides the intellectual basis for analysis and evaluation, whereas the motivational-value component stimulates the desire for independent inquiry and professional growth. Reflective, communicative, and practical-activity components contribute to self-assessment, collaborative problem-solving, and the application of critical thinking in authentic educational situations. Therefore, the study of these structural components creates opportunities for designing effective pedagogical strategies aimed at enhancing the professional competence of prospective primary school teachers.

The structural components of critical thinking are manifested in the professional and pedagogical activities of the future primary school teacher in an integrated manner. Each of these components, in addition to expressing a certain aspect of critical thinking, also performs important functional tasks that ensure the effectiveness of pedagogical activity. In particular, the cognitive component serves to analyze, compare, generalize and draw logical conclusions from information, while the motivational-value component

forms the teacher's need for independent thinking, professional interest and value relations. The reflective component allows for the analysis and evaluation of one's own activities, while the communicative component ensures the exchange of ideas, reasoning and pedagogical cooperation. The practical-activity component is manifested in the application of critical thinking in real pedagogical situations, in the process of solving problems and making effective pedagogical decisions.

At the same time, each component performs a distinct function in the formation of critical thinking, yet none of them can ensure its effective development in isolation. The cognitive component provides the intellectual basis for analysis and reasoning, whereas motivational-value orientations stimulate the desire to engage in reflective and independent thinking. Reflective processes enable future teachers to evaluate their judgments and identify areas for improvement, while communicative interaction supports the exchange and validation of ideas. The practical-activity component integrates these processes into real pedagogical practice, allowing theoretical knowledge to be transformed into effective action. Therefore, the development of critical thinking should be viewed as a dynamic and interconnected process in which all components mutually reinforce one another.

The interrelation of these components reveals the content of critical thinking as a holistic pedagogical system. Because the development of one component in the process of pedagogical activity directly affects the activation of the other. For example, reflective analysis deepens cognitive activity, while communicative processes increase the effectiveness of practical decisions. In this regard, the structural structure of critical thinking has an integrative character and is an important pedagogical basis for the development of professional competence of a future primary school teacher.

The structural components of critical thinking in future primary school teachers and their mutual integration are reflected in the following model (Figure 1). The model represents the motivational-value, cognitive, reflexive, communicative, and practical-activity components of critical thinking as an integrated system, and their harmonious development serves the teacher's independent pedagogical decision-making, innovative activity, and increase in professional competence.

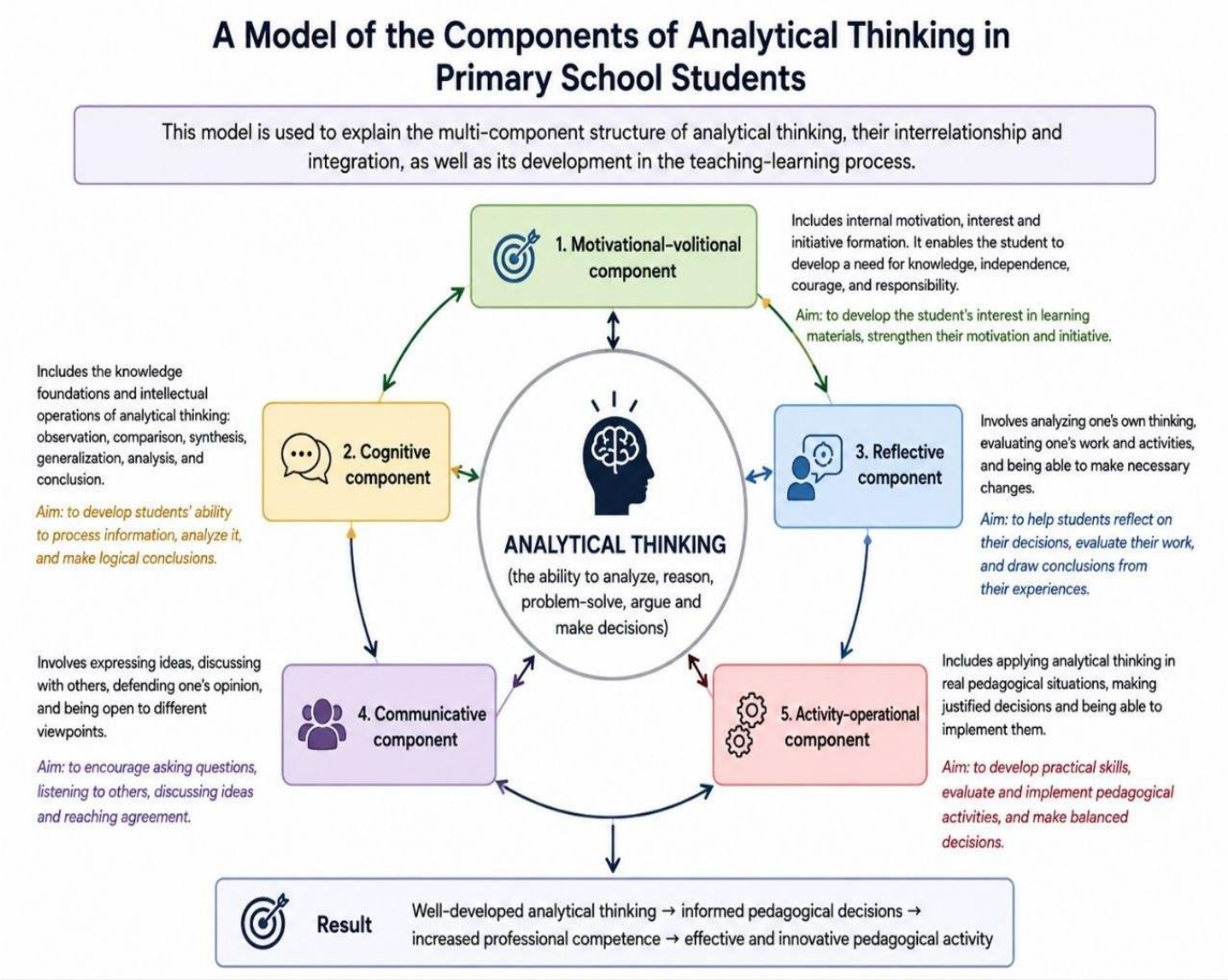


Figure 1. Structural component model of critical thinking in prospective elementary school teachers.

The proposed structural model demonstrates that critical thinking in prospective elementary school teachers is a multidimensional construct formed through the integration of motivational-value, cognitive, reflective, communicative, and practical-operational components. These components function in close interrelation and collectively contribute to the development of independent reasoning, evidence-based judgment, and effective problem-solving skills. The model highlights that critical thinking is not limited to cognitive processes alone but also involves personal values, self-reflection, communication, and practical application in pedagogical contexts. The systematic development of these components enhances future teachers' ability to make informed pedagogical decisions and respond creatively to educational challenges. Therefore, fostering critical thinking should be regarded as a key objective in teacher education programs aimed at preparing competent and innovative primary school educators. The implementation of this model can serve as a theoretical and methodological foundation for improving the professional competence of future teachers in contemporary educational environments.

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