METACOGNITIVE APPROACH IN THE PROFESSIONAL TRAINING OF FUTURE TEACHERS: ITS IMPORTANCE

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Abstract. *This thesis presents a comprehensive analysis of the theoretical foundations, practical mechanisms, and strategic significance of the metacognitive approach in the professional preparation of future teachers. Metacognition refers to the ability to plan, self-assess, and regulate one's own thinking processes. It plays a crucial role in developing critical thinking and professional reflection skills among prospective educators. Drawing on international empirical studies and the works of Uzbek researchers, the study highlights the relevance of integrating metacognitive strategies into higher pedagogical education. The findings demonstrate that the metacognitive approach enhances higher-order thinking skills and pedagogical content knowledge in future teachers, shaping them into lifelong learners who are committed to continuous self-improvement.*

Keywords: *metacognitive approach, future teachers, professional training, self-regulation, reflection, IMPROVE model, pedagogical competencies, higher pedagogical education.*

Annotatsiya. *Mazkur tezisda bo'lajak o'qituvchilarning kasbiy tayyorgarligida metakognitiv yondashuvning nazariy asoslari, amaliy mexanizmlari va strategik ahamiyatini kompleks tahlil qilindi. Metakognitsiya fikrlash jarayonlarini rejalashtirish, o'z-o'zini baholash va tartibga solish qobiliyati bo'lib, bo'lajak pedagoglarning tanqidiy fikrlash va professional refleksiya ko'nikmalarini rivojlantirishda muhim ahamiyat kasb etadi. Tadqiqot xalqaro empirik tadqiqotlar va O'zbekiston olimlarining ishlariga asoslanib, metakognitiv strategiyalarni pedagogik oliy ta'lim jarayoniga integratsiya qilishning dolzarbligini asoslaydi. Natijalar shuni ko'rsatadiki, metakognitiv yondashuv bo'lajak o'qituvchilarning yuqori darajadagi fikrlash va pedagogik kontent bilimlarini oshirib, ularni doimiy intiluvchan va o'z ustida ishlovchi mutaxassislar sifatida shakllantiradi.*

Kalit so'zlar: *metakognitiv yondashuv, bo'lajak o'qituvchilar, kasbiy tayyorgarlik, o'z-o'zini tartibga solish, refleksiya, IMPROVE modeli, pedagogik kompetentsiyalar, oliy pedagogik ta'lim.*

Аннотация. *В данной работе представлен всесторонний анализ теоретических основ, практических механизмов и стратегического значения метакогнитивного подхода в профессиональной подготовке будущих учителей. Метакогниция - это способность планировать, оценивать и регулировать мыслительные процессы, имеющая большое значение для развития критического мышления и навыков профессиональной рефлексии у будущих учителей. Исследование, основанное на*

международных эмпирических исследованиях и работах узбекских ученых, обосновывает актуальность интеграции метакогнитивных стратегий в процесс высшего педагогического образования. Результаты показывают, что метакогнитивный подход повышает уровень мышления высокого уровня и педагогического содержания знаний будущих учителей, формируя из них постоянно стремящихся к самосовершенствованию специалистов.

Ключевые слова: *метакогнитивный подход, будущие учителя, профессиональная подготовка, саморегуляция, рефлексия, модель IMPROVE, педагогические компетенции, высшее педагогическое образование.*

Introduction. In today's world, the primary goal of modern education is not only to equip students with knowledge but also to transform them into independent, critical thinkers who can effectively manage their own learning. Therefore, the professional training of future teachers plays a pivotal role in this process. The metacognitive approach is widely recognized as one of the most effective tools for achieving this goal. In particular, within the framework of Uzbekistan's Education System Development Strategy (2020–2030) and the "Digital Uzbekistan-2030" program, improving the quality of higher pedagogical education and fostering 21st-century skills have become pressing priorities. At the same time, results from international assessment systems indicate that teachers' ability to reflect on and improve their own practice is currently insufficient.

The aim of this study is to explore the theoretical foundations of the metacognitive approach in the professional training of future teachers, analyze its practical effectiveness, and develop scientifically grounded recommendations for its implementation in the Uzbek context. The scientific novelty of the research lies in the fact that, for the first time in Uzbek higher pedagogical education, metacognitive strategies are examined in a comprehensive manner through their integration with the IMPROVE model and digital tools.

Main Body. The concept of metacognition was first scientifically defined by John H. Flavell, who described it as "thinking about thinking" or "knowledge of cognitive processes and their monitoring."[25] Metacognition consists of two main components: metacognitive knowledge and metacognitive regulation. Flavell characterizes metacognition through four elements:

1. Metacognitive knowledge
2. Metacognitive experiences
3. Goals
4. Strategies

For future teachers, metacognition holds dual importance. As learners, they learn to manage their own studying; as teachers, they acquire the ability to teach these skills to their students. Research by Kramarski and Michalsky has shown that the IMPROVE self-

[25] Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive–developmental inquiry. *American Psychologist*, 34(10), 906–911.

questioning model significantly improves higher-order thinking and pedagogical content knowledge among pre-service teachers.[26] The works of Uzbek scholars also confirm the relevance of this topic. For example, Ahadov M. demonstrated the effectiveness of reflection and self-assessment in teaching chemistry based on a metacognitive approach.[27] Meanwhile, Po‘latovich F.D. emphasized the advantages of combining artificial intelligence with the development of metacognitive abilities.[28]

In professional training, the metacognitive approach is applied through stages such as planning, monitoring, evaluation, and correction. Observations reveal that many future teachers currently have a low level of metacognitive awareness, face time constraints, and encounter practical challenges related to traditional assessment systems. To address these issues, the following recommendations are proposed:

1. Develop a special module titled “Metacognitive Strategies and Teaching Mastery” in pedagogical universities.
2. Implement monitoring through digital tools.
3. Organize practical exercises based on simulations and practice-oriented learning.

Conclusion. In summary, the metacognitive approach is one of the most important tools in the professional training of future teachers in modern education. The results of this study confirm that metacognitive strategies develop teachers’ professional reflection, self-management, and higher-order thinking skills, turning them into true leaders in education. This, in turn, enhances students’ ability to learn independently and effectively. Moreover, the integration of the metacognitive approach not only elevates the professional training of future teachers to a new level but also significantly improves the overall quality of the entire education system.

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