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METHODOLOGY FOR INCREASING STUDENTS' COGNITIVE ACTIVITY THROUGH A DIFFERENTIATED TEACHING APPROACH

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Abstract This article discusses the issues of increasing students' cognitive activity through the application of a differentiated approach in the educational process. It also analyzes the methodological aspects of organizing the educational process by taking into account students' individual characteristics, abilities, and levels of knowledge. The possibilities of developing students' independent thinking, problem-solving skills, and active participation in the learning process through differentiated education are considered. The article substantiates the pedagogical effectiveness of this approach and its importance in enhancing students' cognitive activity.

Keywords Differentiated education, cognitive activity, pedagogical methodology, individual approach, educational effectiveness, learning activity, pedagogical technologies, students' abilities.

In the modern education system, effectively organizing the learning process and developing students' independent thinking and cognitive activity are considered among the important pedagogical tasks. In the educational process, the abilities, interests, and levels of knowledge of all students are not the same; therefore, organizing lessons based on a single approach does not yield the expected results. For this reason, the need to apply a differentiated approach in the educational process is steadily increasing. A differentiated teaching approach implies organizing the educational process while taking into account the individual characteristics of students. Through this approach, students' levels of knowledge, interests, abilities, and learning pace are considered, and appropriate methods and tasks are selected accordingly. As a result, students actively participate in the educational process, learn to think independently, and their interest in learning increases. Today, modernizing the educational process, implementing a competency-based approach, and developing students' creative and critical thinking skills are among the important tasks facing the education system. In particular, a differentiated approach proves to be an effective pedagogical tool in increasing students' cognitive activity. Through this approach, students acquire knowledge according to their individual capabilities, actively participate in the learning process, and the effectiveness of education increases. From this perspective, studying the methodology of increasing students' cognitive activity through a differentiated approach in the educational process, analyzing its theoretical and practical foundations, and implementing it in educational practice are considered one of the urgent scientific and pedagogical issues. In the context of globalization and the rapid development of the education system today, effectively organizing the educational process and fully realizing the intellectual potential of students have become increasingly important. Developing students' intellectual potential and ensuring its full realization is considered one of the urgent pedagogical problems. In modern educational concepts, forming the learner not as a passive recipient of ready-made knowledge but as an active subject has been defined as a priority task. This, in turn, requires the organization of the educational process in such a way that students' individual characteristics, abilities, needs, and opportunities are taken into account. In educational practice, despite the differences in students' levels of knowledge, learning pace, interests, and psychological characteristics, teaching them according to a single

curriculum and the same methods often leads to a number of problems. As a result, some students fail to master the learning material sufficiently, while in others a decline in interest toward learning can be observed. Therefore, the use of differentiated and individualized approaches in the educational process is becoming a pedagogical necessity. A differentiated approach implies adapting learning tasks, methods, and forms according to students' levels of knowledge, preparedness, and abilities, whereas an individualized approach focuses on organizing education by taking into account each learner's personal development trajectory. These approaches play an important role in developing students' independent thinking, creativity, and self-development skills. Educational reforms being implemented in the Republic of Uzbekistan, particularly those aimed at developing learner-centered education, introducing a competency-based approach, and improving the quality of education through normative and legal documents, further increase the significance of differentiated and individualized approaches. The effective implementation of these approaches in the educational process contributes to activating students' learning activities and ensuring deep and stable acquisition of knowledge. Issues related to differentiated and individualized approaches in education have long been one of the important areas of research in pedagogical science. Various scientific views have been proposed by both foreign and local scholars regarding the theoretical foundations, essence, and practical implementation of these approaches. In foreign pedagogical literature, the theoretical foundations of differentiated and individualized approaches are primarily discussed within the framework of learner-centered education concepts. In particular, in the scientific views of scholars such as J. Dewey [1], L. S. Vygotsky [2], J. Bruner [4], and B. Bloom [3], taking into account the individual developmental characteristics of learners is recognized as an important factor in educational effectiveness. L. S. Vygotsky's theory of the "Zone of Proximal Development" forms the scientific basis of the individualized approach, substantiating the necessity of overcoming the gap between students' actual and potential abilities through pedagogical support. The taxonomy and differentiated assessment approaches developed by B. Bloom make it possible to organize the educational process according to students' cognitive levels. Likewise, J. Bruner's constructivist approach plays an important role in developing individual educational strategies by supporting students' independent learning activities. Recent studies conducted by European and American researchers have also substantiated the close relationship between differentiated education and inclusive education. In particular, C. Tomlinson's [5] model of differentiated instruction, which involves adapting the content, process, and outcomes of learning to students' individual needs, is widely applied in practice. Local pedagogical scholars have also addressed the issues of differentiation and individualization in terms of improving the quality of education and increasing students' cognitive activity. Uzbek researchers have developed methodological foundations for organizing differentiated education based on learner-centered education, a competency-based approach, and innovative pedagogical technologies [7], [8]. Their scientific works…

In their scientific works, particular attention is paid to taking into account the age and individual characteristics of students in the educational process, as well as to differentiating learning tasks according to their level of complexity. In scientific sources related to music education, higher education, and vocational education, the practical aspects of differentiated and individualized elements are widely discussed. Within this framework, the possibilities of adapting educational content, developing individual learning plans, and using interactive methods in teaching to enhance students' creative and professional competencies are substantiated. The analysis of the literature shows that differentiated and individualized approaches are among the important pedagogical factors in the effective organization of the

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educational process. Their systematic and purposeful application contributes to students' personal development and ensures the quality and effectiveness of education. At the same time, issues related to developing effective mechanisms for integrating these approaches into the educational process and improving teachers' methodological preparedness still remain relevant. In the modern education system, differentiated and individualized approaches are no longer viewed merely as methodological tools, but rather as an important component of the philosophy of education. These approaches, which focus on identifying each student's individual capabilities and directing them toward development, fundamentally transform the relationship between teacher and student. In this context, the teacher is no longer only a transmitter of knowledge but becomes a facilitator and supporter who guides the learner's individual development. The practical significance of differentiated approaches is primarily manifested in the idea of creating equal opportunities in education rather than equality in tasks or requirements. Applying the same tasks and requirements to all students may ignore their individual differences. Discussions indicate that differentiating learning tasks according to their level of complexity and applying methods that correspond to students' knowledge levels and preparedness significantly increases learning outcomes. At the same time, differentiation allows high-achieving students to fully demonstrate their potential, while preventing students with lower academic performance from falling behind. The individualized approach further deepens the educational process by focusing more closely on the learner's personality. Within this framework, not only the student's level of knowledge but also their interests, psychological state, motivation, and life experience are taken into account. Analytical studies show that education organized on the basis of an individualized approach strengthens students' self-awareness, independent decision-making, and sense of responsibility. Consequently, educational outcomes become aligned not only with academic achievements but also with personal development. During the discussion, the interrelationship between differentiated and individualized approaches becomes particularly significant. Practical experience shows that these two approaches complement each other, and applying them separately does not produce the expected results. While the differentiated approach mainly focuses on working with groups of students, the individualized approach aims to determine each learner's personal development trajectory. Their integration transforms the educational process into a flexible, effective, and result-oriented system. At the same time, several challenges arise in implementing these approaches in educational practice. In particular, insufficient methodological preparedness of teachers, excessive teaching workload, and the large number of students in classrooms hinder the full implementation of differentiated and individualized approaches. The discussion indicates that modern pedagogical technologies, digital learning platforms, and adaptive teaching models can serve as important tools in addressing these issues. The results of this study demonstrate that the effective use of differentiated and individualized approaches in the educational process plays an important pedagogical role in improving students' mastery of knowledge, enhancing their cognitive activity, and developing their independent thinking abilities. These approaches make it possible to organize education while taking into account students' individual capabilities, interests, and needs. The analysis reveals that the differentiated approach ensures the effectiveness of the educational process by adapting learning tasks according to their level of complexity, students' preparedness, and their pace of learning. The individualized approach, in turn, helps to shape each student's personal development trajectory and enables the realization of their intellectual and personal potential. The integrated application of these two approaches increases the flexibility of the educational process and creates a foundation for achieving stable and high-quality educational outcomes.

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