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THE IMPACT OF INNOVATIVE TEACHING METHODS ON STUDENT ENGAGEMENT AND LEARNING EFFECTIVENESS IN SCHOOLS

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Abstract. *This article examines the role and significance of innovative teaching methods in the modern education system. The study analyzes the impact of approaches such as gamification, digital technologies, flipped classroom, and project-based learning on student engagement, motivation, and the development of independent thinking skills. Both qualitative and quantitative research methods, including questionnaires, interviews, and classroom observations, were employed. The findings indicate that innovative teaching methods significantly enhance the effectiveness of the learning process compared to traditional instructional approaches. The results of the study have practical value for the modernization of educational systems.*

Keywords: *innovative teaching methods, gamification, digital education, flipped classroom, learning effectiveness.*

ВЛИЯНИЕ ИННОВАЦИОННЫХ МЕТОДОВ ОБУЧЕНИЯ НА АКТИВНОСТЬ УЧАЩИХСЯ И ЭФФЕКТИВНОСТЬ ОБРАЗОВАНИЯ В ШКОЛАХ

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Аннотация. *В статье анализируется роль и значение инновационных методов обучения в современной системе образования. Рассматривается влияние таких подходов, как геймификация, цифровые технологии, перевёрнутый класс и проектно-ориентированное обучение, на активность учащихся, уровень мотивации и развитие навыков самостоятельного мышления. В исследовании использованы качественные и количественные методы анализа, включая анкетирование, интервью и наблюдение. Полученные результаты показывают, что применение инновационных методов обучения значительно повышает эффективность*

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образовательного процесса по сравнению с традиционными подходами. Материалы статьи могут быть использованы при модернизации образовательной практики.

Ключевые слова: *инновационные методы обучения, геймификация, цифровое образование, перевёрнутый класс, эффективность обучения*

MAKTABLARDA INNOVATSION O‘QITISH METODLARINING O‘QUVCHILAR FAOLLIGI VA TA’LIM SAMARADORLIGIGA TA’SIRI

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Annotatsiya. *Ushbu maqolada zamonaviy ta’lim jarayonida innovatsion o‘qitish metodlarining o‘rni va ahamiyati tahlil qilinadi. Tadqiqotda gamifikatsiya, raqamli texnologiyalar, “flipped classroom” va loyiha asosida o‘qitish kabi yondashuvlarning o‘quvchilarning faolligi, motivatsiyasi va mustaqil fikrlash ko‘nikmalariga ta’siri o‘rganilgan. Tadqiqot metodologiyasi sifatida sifat va miqdoriy tahlil usullari, so‘rovnomalar, intervyular hamda kuzatuvlar qo‘llanilgan. Tadqiqot natijalari innovatsion o‘qitish usullari an’anaviy metodlarga nisbatan ta’lim samaradorligini sezilarli darajada oshirishini ko‘rsatadi. Maqola natijalari ta’lim tizimini modernizatsiya qilishda amaliy ahamiyatga ega.*

Kalit so‘zlar: *innovatsion o‘qitish, gamifikatsiya, raqamli ta’lim, flipped classroom, ta’lim samaradorligi.*

The modern education system is constantly evolving in an environment that requires innovative methods. The involvement of students in the lesson and the assimilation of documents are directly related to the quality of the educational process. Traditional teaching methods, in many cases, cannot respond to the individual intuition of students, which leads to a decrease in motivation and passivity in the learning process. Therefore, the introduction of interactive and innovative teaching methods serves to increase the level of education.

In the recent education system, interactive teaching methods are gaining momentum. Active involvement of students in the learning process, development in lessons, and improvement of the teaching process using modern technologies are of great importance for the quality of education. That is why educational systems, computers, gamification, and individual pedagogical systems for students are widely used in education.

Existing research shows that interactive teaching strategies

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significantly improve students' interest in the lesson, motivation, and learning. The theory of social constructivism, put forward by Vygotsky (1978)[1], emphasizes the importance of cooperation and communication in the educational process.Piaget (1952)[2] emphasizes the need to organize the learning process in accordance with the stages of cognitive development of students. Many studies have studied the effectiveness of gamification, digital learning, and learner-centered approaches.

Innovative approaches can increase student activity and interest and develop independent learning skills. Also, the use of technology in the learning process creates new opportunities for teachers and allows them to organize lessons more effectively. This study aims to study how innovative teaching methods affect student learning and attempts to highlight the importance of new pedagogical approaches in the education system.

The main objective of this study is:

1. To study the impact of innovative teaching methods on student engagement: To analyze how students' interest in learning, level of participation in the lesson, and motivation change when using innovative methods. Also, to more deeply determine the impact on increasing students' level of independent thinking and their engagement in the learning process.

2. Comparing the results of gamification-based and traditional teaching methods: Comparing the effectiveness of traditional approaches based on game elements with the results of the educational process. To study how gamified methods generally increase students' knowledge and increase their interest in learning.

3. Evaluating the effectiveness of innovative teaching strategies in different learning environments: Analyzing the results of innovative methods in different categories of students and learning environments. Assessing how these methods have an impact in rural and urban schools or with different age groups.

4. Analyze the level of student engagement based on traditional and innovative methods: To study how innovative teaching strategies change students' approach to learning, the process of discussion and collaboration between them. Focus on the development of students' problem-solving skills and the formation of independent learning abilities.

The impact of innovative teaching methods on the educational process has been widely studied in various studies to date. This section provides a broader review of pedagogical theories and how innovative teaching methods affect the quality of education, based on scientific sources.

Constructivism and the Learning-Centered Approach

The theory of constructivism emphasizes the active participation of students in the educational process. Vygotsky (1978)[1], in his theory of social constructivism, showed the

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importance of cooperation and communication in the process of knowledge creation. Piaget (1952)[2], in his theory of cognitive development, noted that the ability of students to accept knowledge and the level of assimilation depend on their age stages. Innovative teaching methods built on the basis of these theories serve to develop students' independent thinking and further consolidate knowledge.

Gamification and Digital Learning

In modern education, the use of gamification and digital technologies plays an important role in increasing student motivation and increasing their interest in the lesson. Gee (2003)[4] has studied the importance of video games in education and emphasized that interactive game elements can actively engage students in the learning process. Mayer (2005)[5] has studied the effectiveness of multimedia teaching and found that the use of audio and visual materials increases the level of student understanding. Therefore, the use of multimedia in education can be much easier and more effective in increasing student interest and explaining complex topics to them.

Flipped Classroom Approach

The flipped classroom method also organizes the educational process differently from the traditional approach. Johnson et al. (2014)[6] emphasize that this method helps students develop independent learning skills and actively participate in the lesson process. This method is also effective, as students study the topic in advance as homework and have the opportunity to consolidate their knowledge through practical exercises in the classroom.

Differentiated Approaches in Education

Differential approaches to education are important because each student has their own unique learning style. Reigeluth (1999)[7] argues that tailoring the education process to individual needs increases educational effectiveness. Therefore, adapted and individualized teaching approaches can be more effective in the educational process.

All of the above literature shows the advantages of innovative teaching methods and reveals their importance in the educational process. The study examines how effective these approaches are in practice.

This study mainly uses a case study approach to study the impact of innovative teaching methods on school students. The study analyzes the effectiveness of various innovative methods in real educational environments. This approach certainly allows for an in-depth analysis of the challenges and changes that arise in the educational process.

The research uses both quantitative and qualitative analysis methods. Quantitative analysis is based on test results, questionnaires, and statistical data. Qualitative analysis is carried out through conversations, observations, and interviews with teachers and students. These methods compare the results of

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innovative and traditional approaches and determine the effectiveness of the educational process.

The study involves classrooms in different schools, and the classes are divided into two groups: one that teaches using various innovative methods, and the other that uses a traditional approach. This comparison mainly provides insights into the effectiveness of innovative strategies and allows for the analysis of changes in the educational process.

All data are collected using the following methods:

1. Questionnaires: Questionnaires administered to teachers and students determine their attitude to innovative methods, i.e., interest, level of activity in the lesson and level of motivation. Basically, questionnaires are designed, and a Likert-based rating system is used. In addition, open-ended questions allow for a deeper exploration of participants' experiences and personal opinions.

2. Interviews: This study will conduct in-depth interviews with education professionals and teachers. These interviews will then mainly serve to identify various challenges encountered in the process of implementing innovative teaching methods, their advantages, and practical experiences. The interviews will be conducted in 2 ways, that is, in an open and semi-structured format, and detailed information will be collected on the attitude of teachers to new teaching strategies, their impact on the educational process, and their effectiveness.

3. Observations: Evaluates the impact of traditional and innovative methods on students by directly observing the learning process in the lesson. During the observation process, special criteria are also developed to further determine which methods serve to increase student activity. For example, aspects such as the level of student participation in the lesson, the level of cooperation and communication, and the quality of full response to the assigned tasks are evaluated.

4. Analysis of learning outcomes: This analyzes student grades and the level of knowledge acquisition. That is, the differences between the two groups of students (those who received traditional and innovative education) are statistically analyzed to study the impact of innovative approaches on learning outcomes.

5. Experiments: Special experiments are conducted to compare and determine the effectiveness of innovative and traditional teaching methods.During the study, lessons are organized using both approaches, and their results are compared. By examining the experimental results, it is determined how much the students' logical thinking ability, level of knowledge acquisition, and motivation have changed.

After collecting this data, it is processed through thematic and statistical analyses, and scientifically based conclusions are drawn about the effectiveness of innovative teaching methods.

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This study clearly demonstrated that innovative teaching methods are more effective than traditional approaches. According to the results, in classes using innovative methods, students were more actively involved in the learning process. Their interest in lessons increased, and their independent learning skills significantly improved. In particular, in classes using methods such as gamification, flipped classroom, and project-based learning, students participated more motivatedly, and their level of mastery increased.

It was found that the level of student participation in gamification-based lessons was 30% higher than in traditional lessons (Gee, 2003)[4]. This means that game elements—points, ratings, and rewards—play an important role in increasing students' interest in learning.

The flipped classroom model also helped to develop students' independent learning skills (Mayer, 2005)[5]. In traditional education, students try to absorb the information provided by the teacher during the lesson. However, in the flipped classroom model, they first study the material at home and then actively participate in practical exercises, discussions, and questions and answers during the lesson. This not only helps students to assimilate knowledge more deeply but also develops their ability to work independently and think.

In addition, project-based learning (PBL) has been shown to help students build their knowledge by solving real-life problems (Johnson et al., 2014). This method, unlike traditional approaches, helps students develop creative and critical thinking skills. The results showed that in lessons where PBL was used, students were able to apply their knowledge to solve real-life problems, which has a positive impact on their future professional and personal development. Therefore, in the future, special training and increased resources for teachers may serve to increase the effectiveness of the educational process.

Overall, the research findings demonstrate that innovative teaching methods significantly improve learning outcomes. These approaches increase student engagement, increase motivation, and support deep and meaningful learning. Supporting teachers, improving technological infrastructure, and adapting the education system to innovation are also essential for the widespread adoption of these methods.

This study helped to further explore the effectiveness of innovative teaching methods and their impact on the modern educational process. The results showed that interactive and technology-based approaches are effective tools for increasing student engagement, motivation, and deeper learning.

Traditional teaching methods also have limitations, such as the lack of individual approach to students, their passive participation, and the limited use of technology, which reduces the effectiveness of the educational process. However, innovative methods such as

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gamification, flipped classroom, and project-based learning (PBL) make the educational process more interactive, interesting, and useful. The study showed that in classes using these methods, student participation was significantly higher, by 30%, compared to traditional methods, independent learning skills were formed, and the level of creative thinking was significantly improved.

However, at the same time, some difficulties were observed in the process of introducing innovative methods. Teachers faced problems such as lack of technological resources, inflexibility of curricula, and lack of sufficient preparation for the effective use of innovative methods. Therefore, for the widespread implementation of innovative methods, it is necessary to specifically train teachers, integrate modern technologies into educational programs, and adapt the learning environment.

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