UDK 303.01

# USE OF INNOVATIONS AND INFORMATION TECHNOLOGIES IN EDUCATION

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**Abstract**

The main goal of innovative education is to create a sense of responsibility for the future and self-confidence in students. This article shows the importance of innovative technologies in teaching physics.

**Keywords:** Innovative technologies, information technologies, modern teaching methods, physics teaching tools.

## Introduction

One of the global trends of the current educational development is the large-scale use of pedagogical innovations in the educational process, and today, in developed countries, special attention is paid to the technologicalization of the processes of teaching concrete and natural sciences based on the achievements of science and technology, the modernization of the education sector, the creation of an interactive educational environment, and the use of innovative methods. being directed. Information and communication technologies are widely used to form practical skills and abilities of students, as well as physical concepts, to develop creative thinking ability, and to obtain an accurate account of complex processes.

In the world, scientific-research works aimed at the purposeful application of the methods of applying innovative and information and communication technologies, developing creative abilities of students and forming design skills are being carried out in the world. These studies serve to expand the composition of forms and means of satisfying the needs of students for learning in the continuous education system, including in the teaching of physics, and to modernize the educational environment based on modern information technologies that positively affect the quality of education.

## Materials and methods

Reforms in our country regarding the development of the education system and the strengthening of its legal base are increasing the possibilities of introducing advanced innovative technologies into the teaching of physics.

Currently, the methods and methods of traditional teaching are widespread in our republic and they have their own history. In the traditional educational process, the teacher is the subject of the educational content, and the students are the object of the pedagogical process. Traditional teaching mainly focuses students on mastering ready knowledge, training and skills, and does not take into account the development of the individual, while teaching in innovative educational technologies teaches them to

search for the acquired knowledge by themselves, learn independently and analyze its content, and even draw conclusions by themselves. As a result, the interest in using innovative technologies, interactive methods and information technologies in the educational process, the teacher not only performs the function of management and direction in the educational process, but also creates conditions for the development, learning and upbringing of the individual.

At the moment, a number of works are being carried out to improve teaching methods using information and communication technologies in various areas of the education system.

Abdukadirov A.A., Aripov M., Begimkulov U.Sh., Zakirova F.M., Tsoy M.N., Umarova L.Kh., Ernazarova regarding the advantages and possibilities of the issues of the theory and methodology of using information and communication technologies in education in our republic Scientists and researchers such as G.O., Hamidov J.A. and Gomulina N.N., Kondratev A.S., Kornushova I.B., Odyak B.P., Smirnov A.V. in their scientific researches use modern information technologies in their scientific research. studied the problems of introduction to the educational process and put them into practice.

Issues of application of information technologies in teaching physics Abdurakhmanov Q.P., Grigorev F.V., Isaev D.A., Kavterev A.F., Kozel S.M., Makarova O.E., Manina E.A., Nosirov M., Tigay O.E., Umarova G.A., O'sarov J.E. and others.

**Discussion**

Although the scientists of the field have conducted scientific research on the problem of improving physics teaching in higher education, the problem of its development and improvement has not been specifically researched. This requires the improvement of physics teaching methods in higher education on the basis of modern information technologies.

The introduction of innovative pedagogical technologies in the process of training pedagogical personnel, especially physics teachers for innovative pedagogical activities, creates a basis for increasing the effectiveness of this process.

The socio-pedagogical necessity of an innovative approach to education in the current globalization process is measured by:

1. Improving the educational process in higher education institutions by studying advanced foreign experiences, using innovative approaches in education and information technologies.

2. Creation and implementation of effective organizational forms and technologies of individual-oriented education that ensure the formation of a new generation with the level of education, intellectual potential, social activity, high general and professional culture, independent skills in social and political life.

3. It is necessary to master pedagogical innovations and use them in the educational process, to develop the professional and innovative competence of the teacher.

4. V.A. Slastenin explains the innovative approach to the pedagogical process by introducing innovations in the purpose, content and form of the organization of cooperative activities of teachers and students.

Programs that use information and communication technologies in the educational process are pedagogical and software tools that reflect the content of a specific

subject, provide conditions for its teaching and implementation of various educational activities.

When creating programs, factors such as the age of students, individual characteristics should be taken into account, ensuring the formation of friendly relations among students, calling for repetition requests when control fails.

Software tools that help to activate students' educational activities: should meet scientific, substantive, pedagogical and psychological requirements, didactic requirements such as comprehensibility, demonstrability, systematicity, consistency, active action, flexibility, individual approach principles, development of intellectual potential, mutual complementarity and availability of feedback.

Pedagogical-software tools are recommended to include recommendations and responses for advice, suggestions, actions or comments for the student, as well as provide opportunities to monitor, analyze, respond and exit actions.

Since physics is an experimental science, physical laws, phenomena, and processes are studied more deeply and more thoroughly in the process of studying and performing laboratory work. It is no exaggeration to say that physics education is conducted on the basis of laboratory work.

## Conclusion

It can be concluded from the results of the analysis that the use of computer technology in laboratory training allows the efficient use of the student's time, the increase and strengthening of theoretical and practical knowledge, the control, assessment and analysis of student knowledge, the operational evaluation of the acquired theoretical and practical knowledge, the effectiveness of physics education, reveals the expediency of organizing traditional and non-traditional methods in parallel for students' theoretical and practical knowledge to be deep and integrated.

Teaching physics using innovative information and communication technologies forms and develops the skills of independent acquisition of physical knowledge in students, and further increases their interest in acquiring natural knowledge.

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УДК 69.05:658.512.6

# АВТОМОБИЛЕСТРОЕНИЕ В УСЛОВИЯХ ОСОБЫХ ЭКОНОМИЧЕСКИХ ЗОН

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**Реферат**

Автомобильная промышленность является одной из ключевых сфер Российской экономики. Стимулирование такой промышленности, а также смежных предприятий необходимых для производства автомобилей является крайне актуальной проблемой в условиях экономических санкций и политики импортозамещения.

В данной статье представлены особенности, проблемы и перспективы развития автомобильной промышленности в Особых Экономических Зонах в России. Дана оценка эффективности мер государственной поддержки функционирования автомобильной промышленности и свободных экономических зон, рассмотрены примеры деятельности свободных экономических зон, специализирующихся на автомобильной промышленности. А также определены перспективы развития автомобильной промышленности в России в связи с текущей внешнеполитической обстановкой и экономической ситуацией в государстве.