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THE USE OF INNOVATIVE TECHNOLOGIES IN THE EDUCATIONAL PROCESS FOR INTEGRATIVE PURPOSES

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Annotation

This article discusses the importance of using innovative technologies and interactive methods in education, the formation of initial skills and competencies in students based on STEM educational programs, as well as the continuity in teaching young people how to use innovative technologies in their future activities.

Key words: pedagogical innovations, innovative technologies, interactive methods, STEM curriculum.

Introduction

All educational endeavors are multifaceted and complex processes that consist of joint mental and physical labor, collaborative or independent labor, activism, and creative thinking of students with teachers and mentors. The issues of increasing the effectiveness of lessons and extracurricular activities are inextricably linked with the scientific organization of the educational process and the practical application of new pedagogical technologies. The main purpose of the organization of innovative activities in educational institutions, the introduction of innovations in the educational process and the introduction of new approaches is to ensure consistency of cooperation between teachers and students and to establish it on the basis of a clear plan and purpose. This work requires a combined solution of pedagogical-psychological and organizational issues. It should be noted that the participants of pedagogical innovations must have a thorough knowledge of methodological, psychological, pedagogical, technological knowledge about the laws of the process of emergence, manifestation and management of innovations. Otherwise, pedagogical innovations will not yield effective results. In our opinion, the responsibility for improving the effectiveness of innovative processes to be introduced in the education system depends on the conditions for the development and implementation of pedagogical innovations, the purposeful, rational and integrated use of traditional and modern methods of education.

Main part

In order to increase innovation and investment activity in education, a wide range of international educational forums and presentations of innovative projects are organized in our country. In particular, branches of new foreign universities, joint faculties and departments, scientific laboratories have been launched in our country. Measures to attract foreign investment in education, including the creation of favorable conditions for cooperation with world-renowned universities with modern marketing mechanisms on the basis of franchising agreements, are included in the program of priority measures for the development of education in Uzbekistan in 2018-2019. In addition, students and those involved in science are getting acquainted and sharing news and inventions in science and various fields through the Internet. Now, most users are able to not only receive news and other educational materials in the traditional way from books, textbooks, newspapers, magazines, but also to find and get acquainted with them more quickly and conveniently on the global network. At the same time, the flow of information is increasing, there is a need to sort them and select only the necessary information.

In addition, a number of scientific studies are being conducted on the automation of many production and other processes, the performance of tasks that can be performed by humans and do not require intellectual capacity or pose a risk in the process of execution by robotics. In most developed countries (USA, China, Israel, Finland, Australia, Malaysia, Germany, France, Italy, Austria, etc.) and in some CIS countries (Russia, Kazakhstan), a relatively new direction in education - STEM (Science - natural sciences, Technology - technologies, Engineering - engineering, Mathematics - mathematics) through the widespread introduction of technologies to form in students the knowledge and skills that will be needed in the future, thereby focusing on increasing human capital. STEM education is not just a way of learning, but a way of thinking. In a STEM learning environment, children gain knowledge and immediately learn to use it. STEM high schools encourage children to experiment, design models, create music and films independently, turn their ideas into reality, and create the final product.

STEM training programs can develop basic skills and competencies that can be applied in real life: building and launching a space rocket model, designing and maintaining a bridge model, oil refining and fractionation, robot assembly and control, and more. In this way, students will be able to study the natural and exact sciences in more depth, increase their interest in science and science, master modern technologies and stimulate the formation of engineering competencies. Students are interested not only in research and application of promising technologies in practice, but also in the ideas, desires and goals of programming and process automation, robotics, nano and biotechnology. This year, a number of decrees and resolutions of the President of the Republic of Uzbekistan aimed at reforming and developing the public education system have been adopted. In this case, the study of international experience and the

implementation of the best and most effective solutions in practice will be able to give the expected results.

Innovative technologies in the pedagogical process are innovations, changes in the activities of teachers and students, which require the use of interactive methods in its implementation. Interactive methods are based on the active, free and independent thinking of each student involved in the learning process. When using these methods, learning becomes a fun activity for the student. When interactive methods are used, students gain the skills and abilities to work independently with the help and collaboration of teachers. Students acquire new knowledge on the basis of scientific research, experiments.

The principle of acquiring knowledge through science is followed. Participants in the learning process work in small groups. Learning assignments are given to all members of a small group, not to an individual student. Each member of the microgroups tries to contribute to the task. This situation builds a sense of community in the students and increases their initiative. Such lessons serve to develop the student's creative ability, strengthen his mental capacity, expand his scientific outlook, and develop his skills and abilities to quickly and fully accept any innovation. The use of innovative technologies in the classroom arouses students' interest in scientific research, develops creativity and ingenuity. As a result, the acquired knowledge, skills and abilities are applied in practice, the quality of mastering increases. To do this, the teacher must be skilled and plan the lesson correctly according to the content of the topics, to ensure that all students work actively and consciously during the lesson. After all, the teacher is the chief executor of education reform. At the same time, it is important to train each teacher to master, process and apply a large amount of information in a short period of time. In solving this, the teacher is assisted by the effective use of modern information technologies, including the use of computer equipment, presentations and slides, along with traditional methods of teaching.

Conclusion

In short, first, it will be possible to convey a lot of knowledge, facts and information to students through the wide range of information and communication technologies. Second, the full implementation of the teacher’s innovative plan, ideas, and thoughts is easy and effective. Therefore, in the system of continuing education, our main task is not only to train students and trainees on the basis of innovative technologies, but also to ensure continuity and continuity in teaching them to successfully use innovative technologies in their future practice.

References

1. Pedagogicheskie teknologii / Under common ed. V.S. Kukushkina. M .: IKTs «MarT», Rostov n / D .: izdatelskiy tsentr «MarT», 2006. 336 p.
2. Petkov V.A., Andryushchenko S.I. Organization innovatsionnoy sredы obrazovatelnogo uchrejdeniya // Vestnik Adygeyskogo gosudarstvennogo universiteta. Series "Pedagogy and Psychology". - Maykop: izd-vo AGU. - Vyp. 1 (95). - 2012. - p. 106- 110.
3. Savina N.M. Innovatsionnye kompetentnostno-orientirovannye pedagogicheskie teknologii v professionalnom obrazovanii // Srednee professionalnoe obrazovanie. - 2008. - № 4. - p. 2-5.
4. Fedorov V.D., Semushina L.G., Podvoyskiy V.A. Soderjanie, funktsii i upravlenie metodicheskoy deyatelnostyu v srednix spetsialnyx uchebnyx zavedeniyax. M .: NPTs «Professional-F», 2004. 200 p.
5. Popova E.S. Exploring the social aspects of shaping motivation for education among young people: from theoretical approaches to practice // Education issues. 2012. № 4.