INNOVATION AND ADVANCED TECHNOLOGIES IN EDUCATION

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Abstract: This article discusses the development of the educational process, the level of quality and efficiency in the era of rapid technological advancement, the achievements gained from the application of technologies in education, as well as the existing shortcomings.

Keywords: Educational innovation, dependence on technology, social impact, advantages and disadvantages of technologies.

The 21st century can rightly be called the "Era of Development of Education and Technologies." It is well known that nowadays technologies have become an integral part of the educational process. Therefore, the education system constantly demands changes, and the introduction of innovations in education has become a pressing issue.

The word "innovation" comes from the Latin "innovation" meaning "to introduce new things." In education, innovation refers to the introduction of new technologies, advanced methods, and modern approaches into teaching, learning, and management processes to improve the quality of education by making changes and introducing novelties.

The most widespread innovations in education today are digital technologies such as interactive whiteboards and online platforms. Schools, lyceums, colleges, and higher education institutions widely use these technologies. Particularly, programs like Google Classroom help make lessons more understandable, meaningful, visual, and effective for students. Additionally, they enable learning from home with ease. Currently, nearly all regions of our country have organized educational processes using technology. Through the development of innovations in education, students not only enhance their thinking skills but also gain practical knowledge and qualifications in the IT field. Because today, every specialist is expected to have a good command of computer skills alongside their profession.

It is well known that alongside technologies, various devices and applications (phones, computers, tablets, laptops, etc.) have entered our lives. Applications like Telegram, Instagram, Videogram, Facebook, WhatsApp, and others help improve our lives and work by creating conveniences. For example, we can communicate with distant relatives as if they were next to us; we can enroll in online courses from various countries and exchange information and experience from home; we have instant access to the latest news worldwide. Even if we cannot buy or find a particular book in printed form, we can access its electronic version through Google or Yandex. Teachers, in particular, have gained considerable convenience. Planning lessons, monitoring attendance, and assessing students using programs like "Kundalik" or "Hemis" have been implemented. These systems allow both students and teachers to be monitored through a central database, fostering responsibility. Parents also have the opportunity to continuously monitor their children's progress, attendance, and participation in classes. This is possible because technology-enabled communication between teachers and parents has been established.

In short, technologies have brought many conveniences to our lifestyle, including the following advantages:

Digital technologies (e.g., interactive whiteboards, online platforms);

Distance learning;

Game-based learning (gamification);

STEAM approach (Math, Art, Science);

Differentiated and individualized teaching methods.

These innovations improve the quality of education, making lessons more interesting, lively, understandable, and effective. Students do not get bored. Children especially enjoy colorful visuals and game-based lessons, which help them learn more easily and retain information better.

Systems like Zoom and Google Classroom allow students to learn remotely in any field of study. This is especially useful for people with disabilities who cannot move independently or those who study individually.

Special lessons and sessions can be organized based on each student's learning pace and comprehension level. These methods help develop creativity, initiative, and independent thinking among students.

Unfortunately, despite these advantages, there are some drawbacks. For example, most schools now rely heavily on technology for lessons, and final quarter exam tests are conducted electronically on computers. However, some remote areas still lack such technological resources, and some students do not have access to necessary devices or Wi-Fi at home, creating difficulties for those without resources.

Excessive dependence on digital tools may lead to students becoming addicted to technology and a decline in traditional learning habits and critical thinking skills. Applications such as Yandex, Google Chrome, Google, and ChatGPT provide easy access to information, which can cause students to become lazy and less inclined to work hard and study independently.

As mentioned before, access to resources is not equal across all regions. In some areas, the lack of internet or technological equipment causes various difficulties for teachers and students in using manuals, assigning tasks, and submitting work.

These problems are temporary, and gradually all educational institutions in our country will be equipped with the necessary technology. However, it is important to use these technologies wisely because they not only bring convenience to students but also to teachers. Therefore, teachers should not become overly dependent on technology; they need to continuously improve their skills and learn new methods.

Online and digital education processes are effective and convenient, but this type of education may reduce emotional connection and the live, sincere interaction between teachers and students.

Furthermore, information security issues and the protection of personal data in education have become increasingly important. The rise in hacking and various fraudulent activities in the country is concerning, and people are being deceived through different schemes.

Moreover, the current society has seen a decline in interest in reading books among some individuals due to excessive fascination with computers, phones, and tablets. Many spend hours playing games or watching videos, causing eye strain and various health issues affecting both youth and adults.

However, it is not all negative. Some young people are making significant discoveries and innovations by leveraging technology. It is essential to keep learning and researching. The use of

electronic books, audiobooks, and blog novels provides a convenient way to learn efficiently and save time.

In conclusion, the introduction of innovations and modern technologies in education is not only improving the quality of education but also plays a key role in the progress of our society. Digital technologies, interactive methods, and distance learning tools make the learning process more interesting, understandable, effective, and adaptable. At the same time, teachers must have up-to-date knowledge and skills, adequate access to technology, and focus on developing students' independent thinking. Wise use of technological tools will ensure that our education system keeps pace with the times and that the younger generation is educated to be competitive and knowledgeable - which is our highest goal.

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