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Use Of Ict In Education After The Covid Pandemic

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ABSTRACT

After the COVID-19 pandemic, the use of ICT in education increased rapidly as schools adopted digital tools to ensure continuous learning. Online classes, learning management systems, educational apps, and digital content became essential parts of teaching. Teachers now use ICT for interactive lessons, virtual assessments, and communication with students and parents. Even after schools reopened, blended learning, smart classrooms, and online resources continue to enhance learning, making education more flexible, accessible, and technology-driven.

1. INTRODUCTION

Information and Communication Technology is a broader term for Information Technology (IT), which refers to all communication technology - internet, wireless networks, cell phones, computers, software, video conferencing, social networking and other media applications and services. It covers products that can store, retrieve, manipulate, transmit or receive information electronically in a digital form. ICT helps to explain complex instructions in an easy way, able to create interactive classes and make lessons more enjoyable, and improve the memory of students.

2. ICT ADOPTION DURING AND AFTER THE PANDEMIC

When lockdowns were imposed, educational institutions rapidly transitioned to online platforms such as Zoom, Google Classroom, Microsoft Teams, and various national e-learning portals. These platforms enabled teachers to conduct virtual classes, share study materials, and evaluate students remotely.

Post-COVID, these tools have not disappeared—they have become embedded in daily academic operations. Hybrid learning models, combining physical and digital instruction, are now common in schools and universities. Teachers continue to use digital tools for lesson planning, assessments, and classroom engagement, demonstrating that ICT is no longer temporary but a permanent educational asset.

3. USES OF ICT

I. ICT promotes collaboration in the classroom between teachers and students to solve problems together. During lockdowns, platforms like Google Classroom, Microsoft Teams, and Zoom became central to education. Even after schools reopened, these platforms continue to be used for: sharing study materials, conducting online assessments, organising hybrid classes, and recording lectures for later access

II. It provides a deeper understanding of the subject. It develops the power of comprehension and expression. Critical thinking is a higher-order cognitive skill. Students can like podcasts, watch short videos on their topics.

III. The Internet is a wealth of learning materials for every subject, which can be accessed anytime at anywhere. ICT also facilitate access to experts, mentors, researchers, professionals, and peers all over the world.

IV. Close communication between students and teachers is encouraged through various channels spontaneously. ICT has helped reach students across remote and marginalized areas. Governments and NGOs provided smartphones or tablets to community digital centres, free educational TV/radio programs, and low-cost internet packages

V. ICT tools stimulate the development of imagination, as well as the initiative of all class members. They Learn new innovations on the internet.ICT helps teachers to plan and prepare lectures. It saves teachers' time and energy. They can update their knowledge and learn new methods of teaching.

VI. As students can learn through the internet anytime at anywhere, they become self-directed and self-reliant. They can plan their shifts or time to learn.

VII. Now it has become easy to communicate with teachers, and they can see students' reports online, check their attendance, Homework, activities and performance.

VIII. Pictures, images, video clips, examples, and facts make the learning effective and interesting, which motivates the student to learn more effortlessly.

IX. Life of special needs students becomes easy with the help of ICT tools. They can learn better or cavily through different special tools along with normal students.

X. Through ICT, we can prepare question papers, also can take online exams, check answer sheets also can update results. It saves time, money, and energy.

XI. The integration of digital technologies or ICT is a significant part of the National Curriculum, and this is a trend that many global governments are taking it up as they see the significance of ICT.

XII. Multisensory is a way of teaching that engages more than one sense at a time, visual, auditory, doing, touching, etc. ICT helps to enhance this kind of teaching.

XIII. Sometimes, it becomes difficult to perform any science experiment or hands-on activity related to any subject, then internet riders can help us out to perform our difficult task

4. Problems in the Use of ICT in Education

Although ICT has transformed education, its use has also brought several challenges that affect teachers, students, and institutions. These problems became more visible during and after the COVID-19 pandemic.

I. Digital Divide (Inequality in Access)

- The biggest challenge is unequal access to technology.
- Many students in rural and poor urban areas do not have smartphones, laptops, or stable internet.
- Families with multiple children often share one device.
- Power cuts and lack of electricity in remote villages disrupt online learning.
- This inequality creates learning gaps between privileged and marginalized students.

II. Poor Internet Connectivity

- Even when students have devices, slow or unstable internet is a major obstacle.
- Video classes lag or disconnect frequently.
- Downloading study materials becomes difficult.
- Teachers cannot conduct interactive sessions smoothly.
- This reduces the overall quality of teaching and learning.

III. Lack of Teacher Training

- Many teachers were not fully prepared or trained in digital teaching methods.
- Difficulty in using online platforms
- Struggle to design interactive digital lessons
- Limited knowledge of online assessment tools
- This made online classes less effective and sometimes stressful for teachers.

IV. High Cost of ICT Infrastructure

- Installing and maintaining ICT tools is expensive.
- **Schools need:** Computers or tablets, Smart classrooms, High-speed broadband, Projectors, and digital boards. Many government or low-budget schools cannot afford this, widening the educational gap.

V. Cybersecurity and Privacy Issues

- Online learning exposes students to risks such as: Data theft, Cyberbullying, Inappropriate online content, and Hacking of virtual classrooms. Schools often lack strong cybersecurity systems or awareness programs.

VI. Reduced Social Interaction

- ICT-based learning limits face-to-face communication.
- Students miss out on: Group activities, Classroom discussions, Peer bonding, and Social and emotional development. This can lead to loneliness, anxiety, and reduced motivation.

VII. Screen Fatigue and Health Problems

- Excessive use of devices causes: Headaches, Eye strain, Back pain, and Sleep disturbances. Children especially suffer from long screen hours that were never part of traditional schooling.

VIII. Quality of Digital Content

- Not all digital content is reliable or educational.
- Many online resources lack accuracy
- Some videos or materials are not age-appropriate
- Poorly designed content reduces understanding
- There is often no standardization or monitoring.

IX. Difficulty in Conducting Practical or Hands-On Learning

- Subjects requiring physical presence—like science labs, sports, arts, and vocational training—cannot be fully taught online.
- Virtual labs help, but they cannot replace real-life experience.

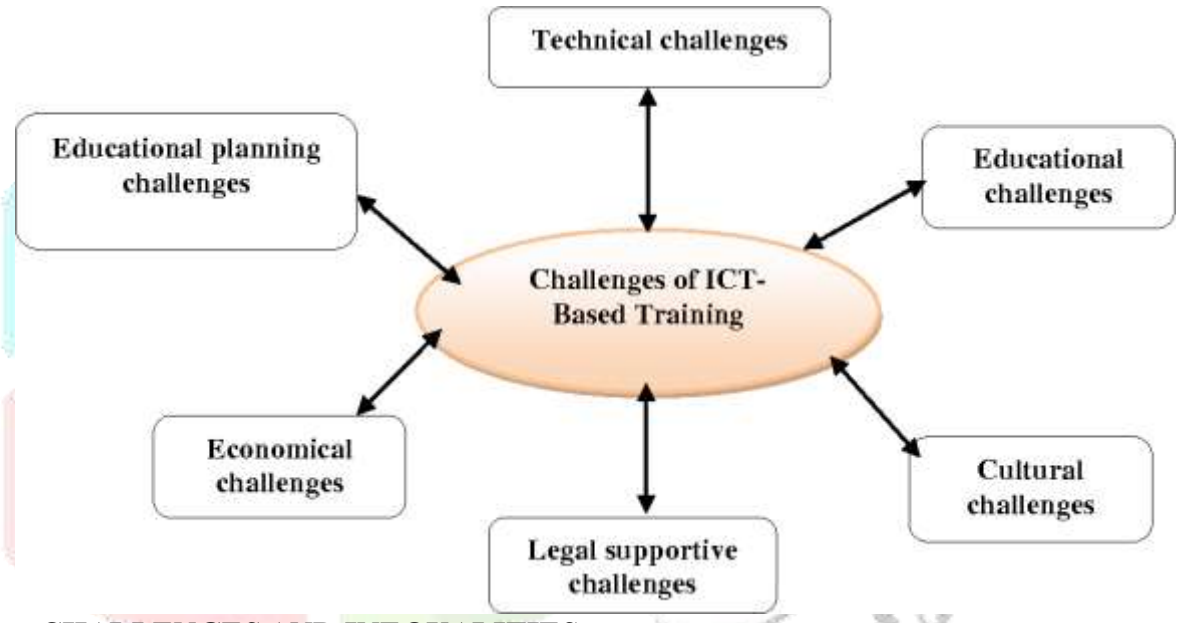
X. Assessment Challenges

Online exams often face issues such as:

- Cheating and lack of supervision
- Technical breakdown during tests
- Difficulty in evaluating practical skills
- Teachers struggling to design fair digital assessments
- This questions the reliability of results.

XI. Language and Digital Literacy Barriers

- Not all students or parents understand English or technology.
- Parents in rural families cannot help with online work.
- Students struggle to follow.



5. CHALLENGES AND INEQUALITIES

Despite its advantages, the digital shift exposed deep inequalities in access to education. A significant number of students, especially in rural and economically disadvantaged regions, lacked smartphones, laptops, or stable internet connections. Many shared devices among family members or depended on community digital centres.

Poor connectivity, insufficient training for teachers, cybersecurity issues, and excessive screen time also emerged as major concerns. These challenges highlight the need for stronger digital infrastructure, targeted government support, and widespread digital literacy initiatives to ensure ICT benefits are distributed equitably.

6. GOVERNMENT AND NGO INTERACTIONS

To reduce the digital divide, governments and non-governmental organisations introduced various support measures. These included distributing smartphones and tablets to students, launching free educational TV and radio programmes, establishing community computer centres, and offering low-cost internet packages. Such initiatives helped maintain learning continuity for millions and demonstrated the potential of ICT to reach remote and marginalized communities.

7. CONCLUSION

In the post-pandemic world, ICT has emerged as a central pillar of modern education, reshaping how classrooms function and how students learn. Its widespread adoption has enabled continuity of learning, expanded digital access, and introduced new possibilities for interactive and global education. Yet the shift has also revealed persistent challenges—from unequal connectivity to gaps in digital literacy—that policymakers and institutions must urgently address. As education systems continue to evolve, the success of ICT integration will depend on sustained investment, inclusive access, and a commitment to bridging the digital divide. The transformation is already underway, and its long-term impact will define the future of learning worldwide.