

NEW AGE EDUCATION: LEARNING WITH DIGITAL TECHNOLOGIES

Abstract

Revolutionising education with new-age digital technologies is the need of the hour. The forced shift to online learning platforms during the COVID-19 pandemic, although chaotic, hastened a much-needed transformation in education.

But can technology bring sustainable changes to a jaded educational landscape and act as a catalyst for empowerment, inclusivity, and a personalised learning experience?

This article takes a bird's-eye view of new-age learning with digital technologies, including the impact of technology on modern pedagogy and learning outcomes.



New-age digital technologies have brought about a paradigm shift in education. From the 'one-size-fits-all' approach of the past century, we are moving towards a system that provides autonomy to learners, multiple teaching modalities to educators, and an impetus to deeper and goal-oriented learning methodologies.

Traditionalists view technology as a distraction rather than a valuable tool in education, citing gadget addiction and

the lack of social and emotional skills as a fallout of online learning. However, this is a flawed perspective based only on observations during the pandemic. It overlooks two key issues:

First, the pandemic forced the education ecosystem to digitalize almost overnight, the sole aim being to avoid a complete shutdown of learning channels. What emerged was a digital version of the conventional teacher-led model, which

merely mimicked the physical classroom without a change in the construct that should accompany a change of medium.

Secondly, the complete lack of physical interaction and restrictions during the lockdown led to excessive screen time, which triggered gadget addiction.

With the benefit of hindsight, it is possible to redesign new-age education with technological inputs to drive better learning outcomes than ever before.

The need to digitalise education

Right after the COVID-19 outbreak, over **1.5 billion** students worldwide switched to online education. On the other hand, an estimated **147 million** from disadvantaged backgrounds lost over half of their in-class instruction in the two years following the pandemic. These children risk losing up to **\$17 trillion** in lifetime earnings in current value.

According to the Sustainable Development Goals (SDG) Report 2022, over **24 million**

learners worldwide from K-12 to university level face the possibility of never returning to school due to a confluence of crises, including COVID-19, natural disasters, and armed conflicts.

Although the 2020 switch to digital technologies in education was need-based, it gave rise to a flexible and efficient learning model. Educators and welfare organisations see much potential in the process of teaching essential 21st-century

competencies while supporting Diversity, Equity, and Inclusion (DEI) initiatives.

According to UNESCO, it is necessary to humanize technology and leverage it as a common good to support SDG 4 – Education 2030 objectives. It believes that digital technology can accelerate inclusive education for marginalised groups such as linguistic and cultural minorities, low-income groups, and people with special needs.

What does learning in the new age entail?

New-age learning takes a learner-centric and goal-oriented approach. This, coupled with the indispensability of technology, means that new-age education must necessarily include two elements: TechEd and Edutech.

TechEd

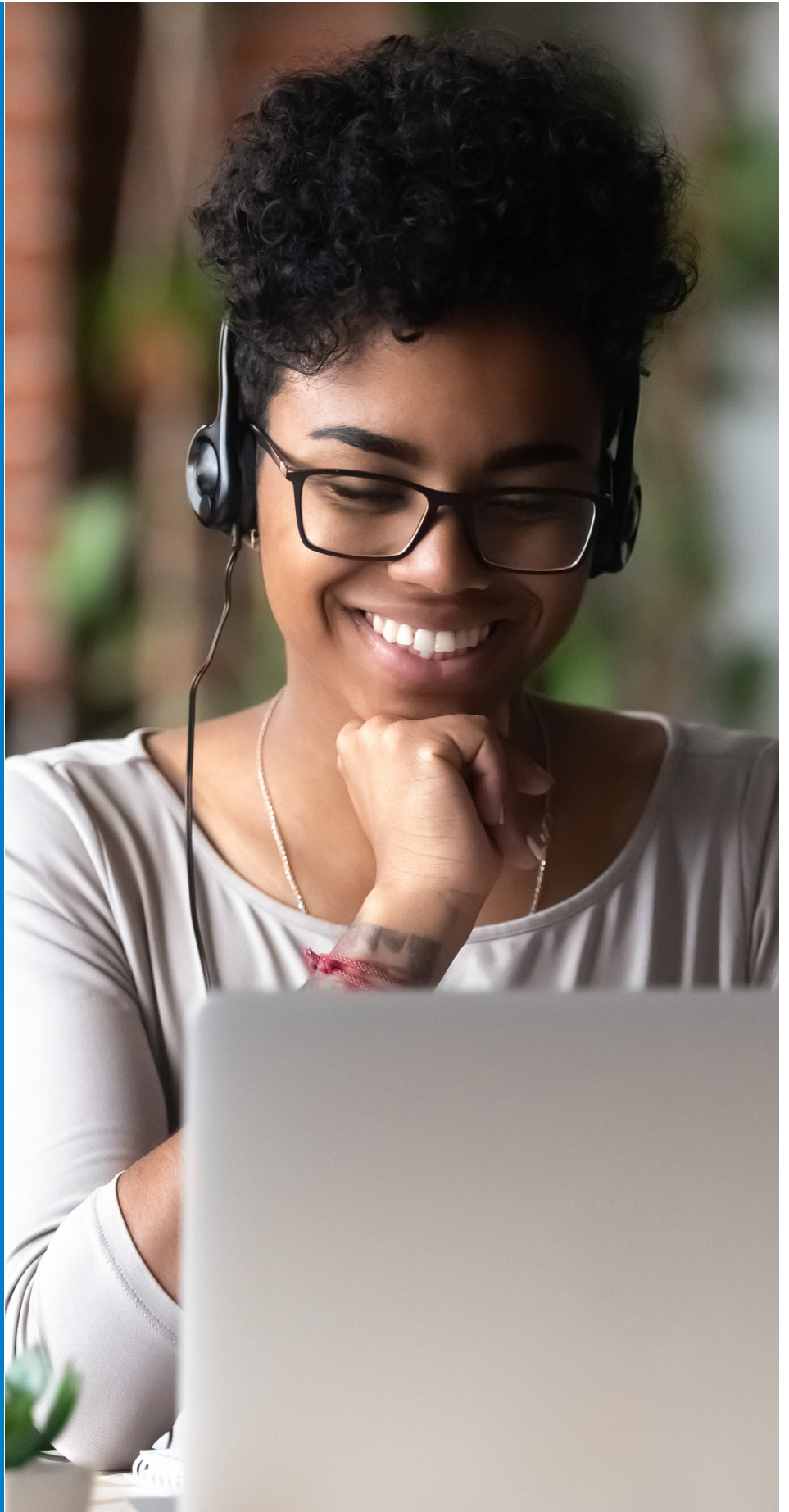
TechEd, or Technology Education, is the study of technology as an academic subject. Technological literacy is no longer an option – it is imperative.

According to a [Dell study](#), we are on the “cusp of the next era of human-machine partnerships”. New-age digital technologies such as Artificial Intelligence (AI) and the Internet of Things (IoT) will determine how we live and work by 2030.

The future workplace will increasingly incorporate smart machines, AI-enabled tools, and digital platforms. New-age education must thus prepare Gen Z-ers for a dynamically evolving career landscape in which innovative technologies will be mainstream.

Edutech

Edutech is short for educational technology. It refers to the spectrum of technologies used in new-age education to disseminate knowledge through physical or online learning platforms. Edutech is invaluable in making learning accessible, engaging, immersive, and learner-centric.





Core technologies in new-age learning

Industry 4.0 needs education 4.0, so the new-age digital technologies that will shape the future workplace must be used to reinvent education. The core technologies that drive new-age learning are -

• Cloud-based services

Cloud computing provides organisations with a shared pool of scalable digital resources and multimedia tools that minimise administration and dependence on service providers.

Cloud-based infrastructure like Learning Management Platforms (LMSs) and Student Information Systems (SISs) are vital in ensuring remote accessibility, personalised learning, and a seamless collaboration of individuals and processes involved in learning in the new age.

• Blockchain

Blockchains use distributed ledger technology that can be leveraged to drive environmental and socio-economic sustainability.

First, they support digital records and credentials, enabling paperless documentation; and second, they enable resource-sharing on public networks, making learning resources such as digital textbooks and training videos affordable and accessible to marginalised learners.

• Open Educational Resources (OERs) and Massive Open Online Courses (MOOCs)

OERs are educational resources such as textbooks, course materials, and podcasts in the public domain for free use and repurposing.

MOOCs are online certificate courses available to anyone with an internet connection, either free of charge or at a fraction of the cost of a traditional university course. OERs and MOOCs can be sustainable solutions to remote accessibility issues and social inequities.

• Gamification, Augmented Reality (AR), and Virtual Reality (VR)

New-age digital technologies such as serious games, gamified content, AR, and VR are rapidly changing how people learn. More importantly, they are changing the way educators view pedagogy.

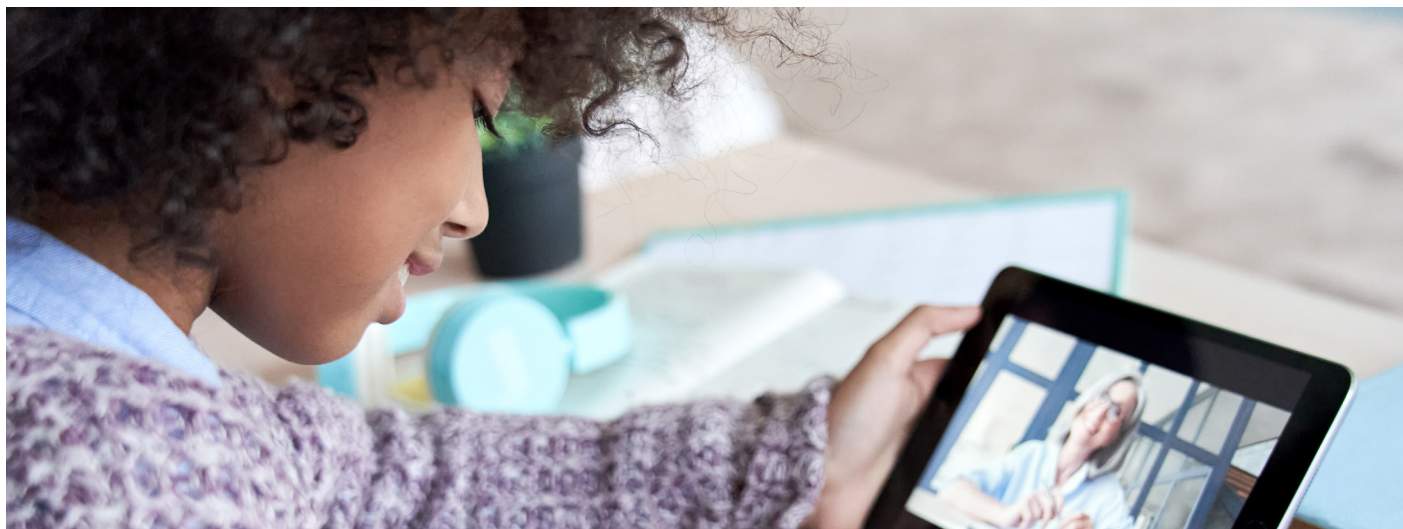
Traditional classrooms and legacy teaching systems can turn learning into drudgery. Proponents of new-age education recognise that long-term learning can only happen through enhanced engagement

and immersion in the content. The experiential nature of immersive technologies aids retention and supports inclusion for students with learning difficulties. Gaming is immensely popular with the young generation. [Studies](#) on the gaming habits of Gen Z-ers show that

87% of them play video games regularly. Many cite gaming as their favourite entertainment activity because it offers an opportunity for self-expression and immersion.

The global video game market is currently valued at USD 220.79 billion and is

expected to grow at a CAGR of 12.9% from 2022 to 2030. It is easy to see how the young are reshaping the education landscape with their preference for new-age digital technologies.



Innovative pedagogies for the new-age education system

With technology at its disposal, new-age pedagogy is evolving to support deeper learning and career readiness against mere content acquisition. Below are a few innovative pedagogies that take a human view of education and can easily align with DEI initiatives.

• Hybrid and blended classrooms

If Covid-19 taught us the importance of leveraging technology for the common good, it also taught us the value of physical interaction in learning interpersonal skills. Therefore, a mix of online and offline teaching is the preferred pedagogical approach in new-age education.

Hybrid and blended models are extremely flexible and accommodate multiple tools and methodologies, such as gamification, AR, VR, interactive screens, and watch parties.

• Flipped class method

A flipped class is a type of blended instruction in which the teacher posts

course material online for the students to review and research at their pace and uses the in-class time for discussions on the subject. This method supports self-paced and autonomous learning and allows the instructor to accommodate various learning styles.

• Homeschooling

Many parents started looking at homeschooling as a viable learning option during the pandemic, especially with the easy availability of digital learning content. Homeschooling supports self-paced, autonomous, and personalised learning and can liberally draw on resources such as OERs and MOOC courses.

• Unschooling

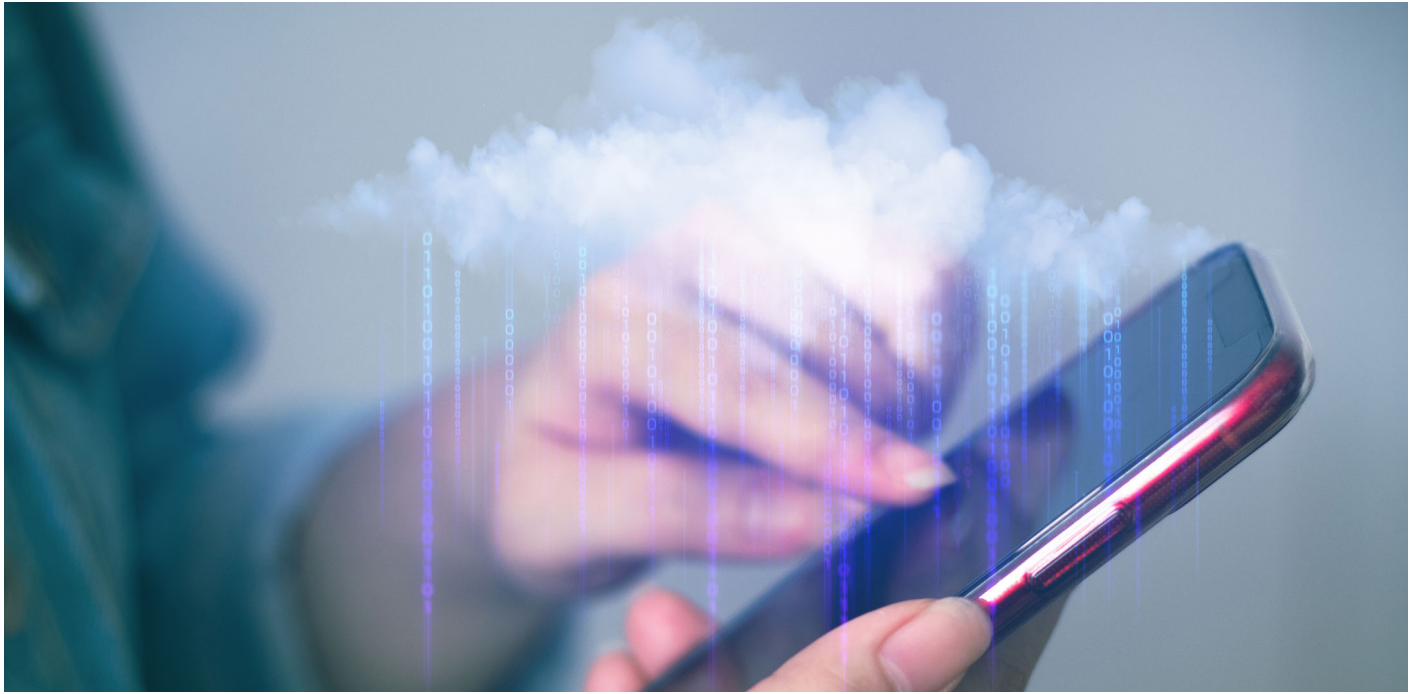
Unschooling is an off-shoot of homeschooling where caregivers teach children based on their interests rather than a set curriculum. This is a highly personalised pedagogical model best suited for learners with special needs or

special interests.

• Microlearning, nanolearning, and micro-credentials

Microlearning and nanolearning are mini-teaching modules, usually with audio-visual input, ideal for skill training. They are brief, goal-oriented, and cost-effective methods of teaching specific skills on the go. Studies indicate that bite-sized modules in learning [improve focus and retention](#) by 80% and generate 50% more learner engagement.

Micro-credentials are short online courses curated for specific career goals and responsibilities. They earn the learner digital certificates or badges to showcase their strengths to potential employers.



Affordances of technology-driven education

New-age technologies reinvent the educational landscape by aligning digital resources with learning goals. The key advantages of digitising education are custom learning, accessibility, cost-effectiveness, and inclusivity. Apart from these obvious benefits, new-age learning also affords a few other improvements over traditional learning methods.

• Non-linear access

The traditional education system was a linear progression from K-12 to higher

learning with a fixed curriculum. New-age education takes an open approach with its wealth of resources accessible anytime and from any device. This approach supports lifelong learning and constant upskilling.

• Collaborative learning

Collaborative features on cloud-based learning platforms, along with new-age methodologies, aim to make learning a collaborative exercise, enabling real-time feedback and integrating soft-skills learning into academic programmes.

• Open-ended learner input

New-age digital technologies and innovative pedagogies support open-ended learning free from rules and parameters. This helps develop higher-order thinking skills and creative problem-solving abilities.

Challenges in adopting new-age education

A better version of education aided by digital technology is in the offing. However, we are still transitional and will face a few roadblocks in the coming years. The biggest challenges in fully adopting the new-age education system are -

• Lack of infrastructure

Many schools in developing nations lack the IT infrastructure to support digital

technology. Cloud-based services, while cost-effective over the long haul, are expensive to install.

• Lack of internet connectivity or speed

Most low- and middle-income countries still lack a decent internet connection that can support virtual classes or the speed required for large data downloads. This is undoubtedly the biggest challenge faced

by new-age education: A system that deepens the digital divide cannot make a case for inclusivity.

• Unskilled teachers

The older generation of teachers trained in traditional modes of instruction finds it difficult to learn technology or to adopt new pedagogies.

Conclusion

The shift from traditional learning systems to a more [open-ended approach in education](#) was essential and long overdue. The COVID-19 pandemic, devastating in many ways, was still a catalyst for

modernising education with new-age digital technologies. The process is not without its challenges. However, just as learning in the new age aims to be a collaborative exercise,

making new-age education mainstream and globally accessible should also be a collaborative effort by governments, policymakers, educators, and edutech service providers.

* For organizations on the digital transformation journey, agility is key in responding to a rapidly changing technology and business landscape. Now more than ever, it is crucial to deliver and exceed on organizational expectations with a robust digital mindset backed by innovation. Enabling businesses to sense, learn, respond, and evolve like a living organism, will be imperative for business excellence going forward. A comprehensive, yet modular suite of services is doing exactly that. Equipping **organizations with intuitive decision-making** automatically at scale, actionable insights based on real-time solutions, anytime/anywhere experience, and in-depth data visibility across functions leading to hyper-productivity, [Live Enterprise](#) is building connected organizations that are innovating collaboratively for the future.

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