



EdTech for Equity, Inclusion and Quality Education

Educational Technology (EdTech) serves as a systemic enabler to modernise the rural school ecosystem by substituting traditional limitations with personalised, interactive digital tools. Driven by the National Education Policy (NEP) 2020, flagship public interventions like PM eVIDYA, DIKSHA, and SWAYAM are successfully democratising access to high-quality, multilingual pedagogy across remote and tribal topographies. Realising the vision of *Viksit Bharat 2047* requires a holistic approach that couples robust digital public infrastructure with intensive teacher professional development and localised, community-supported content to ensure meaningful, lifelong learning for all rural youth.

Jai Prakash Pandey
Raja Pandit

“If we have to build a nation, we should start from the villages.” Emphasising the role of education in nation-building, Hon’ble Prime Minister Narendra Modi stated that India’s greatest strength lies in the aspirations of its youth across villages, towns and cities, who are eager to innovate and contribute meaningfully to the country’s progress. As

India advances towards an innovation-driven economy, there is a continuous need to modernise the education system to fully harness the potential of young minds.

Modern-day technology has transformed every sphere of human life, and education is no exception. Educational Technology (EdTech) has not only changed the medium of teaching and learning but has also fundamentally redefined the entire learning process.

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Educational Technology (EdTech) involves the use of digital tools, platforms and learning resources to enhance teaching and learning experiences. Over the years, EdTech has emerged as an effective way to make education more interactive, engaging and learner-centered. It has reshaped how we learn, what we learn, where we learn, and when we learn. Digital platforms, online resources, artificial intelligence and interactive learning tools have made education more accessible, flexible, personalised, and learner-centric, enabling students to learn beyond the boundaries of remote and tribal regions, hilly terrains, socio-economic disadvantageous circumstances, gender gaps, and traditional classrooms.

Rural Education Landscape

As per the Unified District Information System for Education Plus (UDISE+) data of 2024-25, about 16.35 crore students (approx. 66 per cent) out of 24.7 crore of total students and 12.1 lakh schools (approx. 82 per cent) out of 14.7 lakh schools are located in rural areas. Significant progress has been made to ensure accessibility and quality of education in rural areas, however EdTech can contribute significantly towards providing quality contents, personalised learning, skill developments and learning outcomes in rural areas.

NEP-2020

Recognising the transformative potential of technology in education, National Education Policy (NEP) 2020, has strongly advocated the integration of digital learning into the education system. The NEP 2020 envisions technology as a key driver for transforming India's education system into one that is inclusive, equitable, and future-ready. The policy recognises the role of technology from a supportive aid to a systemic enabler of quality education for all. It highlights the importance of integrating emerging areas such as Artificial Intelligence (AI), cybersecurity, digital ethics, and technological awareness into school curricula while also modernising vocational and professional education to meet changing workforce demands.

Chapter 23 and 24 of the NEP highlights the transformative role technology can play in bridging disparities in educational access and quality across regions, socioeconomic

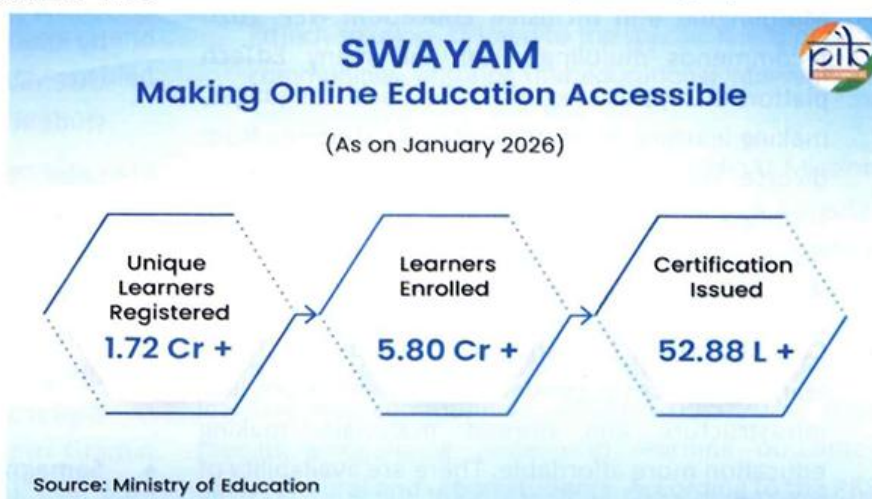
groups, and learners with different abilities. The policy proposes important institutional frameworks, including the National Educational Technology Forum (NETF) and the National Digital Education Architecture (NDEAR) to strengthen digital public infrastructure in education. It also emphasises bridging the digital divide through initiatives like PM eVIDYA initiative by integrating all digital, online, and on-air educational resources under a unified framework. This includes platforms such as DIKSHA, SWAYAM, and SWAYAM Prabha TV channels etc.

The policy also emphasises the creation of open educational resources, promotion of online and blended learning, use of educational applications, and capacity-building programs for teachers to bridge the rural-urban educational divide. In support of this vision, several government schemes, along with initiatives by NGOs and private organisations have been launched to improve access to technology in rural classrooms.

Role of EdTech in Bridging the Educational Gap

Educational Technology has emerged as a powerful solution for addressing the challenges faced by rural education systems.

- Access to Quality Learning Content:** Digital platforms provide students with reliable educational materials aligned with their curriculum, even in geographically isolated areas. Video lectures, interactive modules, digital textbooks, and e-learning resources make learning more engaging and effective. EdTech is helping to reduce educational inequality.
- Personalised Learning Opportunities:** Every child is special. EdTech platforms use Artificial Intelligence (AI) and machine learning to design personalised



Classroom on Air Through DIKSHA: One Nation, One Digital Platform

(As on March 9, 2026)



Source: DIKSHA dashboard

learning experiences which enable students to learn at their own pace while focusing on areas that require improvement and strengthening their existing skills.

- **Breaking Geographical Barriers:** Virtual classrooms and online learning platforms connect students and teachers across regions and countries. Remote learning opportunities ensure continuity of education, especially in areas where access to physical schools and trained teachers is limited.
- **Teacher Training and Professional Support:** EdTech platforms offer training programmes, digital teaching tools, and professional development opportunities for educators. This helps teachers in rural and remote areas upgrade their teaching methods and stay updated with modern educational practices.
- **Multilingual and Inclusive Education:** NEP 2020 recommends multilingualism and many EdTech platforms support regional and local languages, making learning more accessible for students from diverse linguistic backgrounds. Features such as subtitles, translations, and accessibility tools also promote inclusive education for learners with different needs and abilities.
- **Cost-Effective Educational Solutions:** Digital learning reduces dependence on expensive physical infrastructure and printed materials, making education more affordable. There are availability of

free and low-cost EdTech resources has significantly expanded access to knowledge for economically disadvantaged communities.

Government Initiatives Promoting EdTech in Rural Areas

- **PM eVIDYA:** Introduced in 2020 under the “One Nation, One Digital Platform” initiative, PM eVIDYA combines multiple modes of digital education delivery. Through dedicated DTH television channels, community radio and online learning platforms, it has expanded access to education for millions of students in rural regions.
- **DIKSHA:** DIKSHA is a major digital learning platform that offers free educational content in more than 30 Indian languages. It provides curriculum-aligned textbooks, video lessons, assessments, teacher training modules, interactive learning resources, and QR-code linked digital content. The QR-code-enabled textbooks have transformed traditional textbooks into blended learning tools. A child in a village school can scan a textbook page and instantly access visual explanations, animations and practice exercises. As on May 2026, the platform had facilitated over 568.16 Crore learning sessions, making it one of India’s largest digital repositories for school education resources. Daily active users on DIKSHA platform exceed 1.75 Lakh.
- **SWAYAM:** SWAYAM provides Massive Open Online Courses (MOOCs) for both school and higher education learners. It enables students and teachers from rural areas to access high-quality courses from leading institutions such as IITs, IIMs etc free of cost. SWAYAM offers more than 4,400 courses in diverse disciplines, right from school education to higher education. These courses are developed by national coordinators such as NPTEL, AICTE, and UGC. SWAYAM platform has recorded over 1.2 Cr. student enrolments.
- **Solar-Powered Smart Classrooms:** States such as Rajasthan and Odisha have introduced solar-powered digital classrooms in remote locations lacking reliable electricity. These initiatives demonstrate how innovative solutions can help bridge infrastructural challenges and improve digital access in education.
- **Samagra Shiksha Scheme:** ICT and Digital Initiatives

component of Samagra Shiksha covers Government and Aided Schools having classes VI to XII. Under this component financial assistance is provided for establishing ICT Lab and Smart Classrooms in schools. Under Samagra Shiksha, 1,01,147 ICT labs and 2,89,815 smart classrooms are functional across States and UTs. These initiatives represent a key aspirational intervention of the Government of India aimed at saturating schools with digital infrastructure to strengthen EdTech integration and enhance technology-enabled learning opportunities for students.

- **PM SHRI Scheme:** Pradhan Mantri Schools for Rising India (PM SHRI) aims to provide a high-quality, inclusive, and future-ready education system that equips students with 21st-century skills to Schools which are under PM SHRI scheme. These schools are being equipped with computers, high-speed internet, interactive panels, and audio-visual learning tools to enhance engaging and technology-enabled education.
- **PM USHA:** Pradhan Mantri Uchchatar Shiksha Abhiyaan (PM-USHA) promotes open distance learning & virtual learning infrastructure in institutions. It also focuses on using information and communication technology to manage information and communicate within digital networks.
- **Initiatives by The Ministry of Skill Development and Entrepreneurship (MSDE):** MSDE is advancing EdTech in education through the Skill India Digital Hub (SIDH), which offers digital courses in emerging fields such as Artificial Intelligence (AI), the Internet of Things (IoT) and cybersecurity. Flagship initiatives like PMKVY 4.0 integrate emerging technologies into skill development, while schemes such as NAPS (National Apprenticeship Promotion Scheme) and the Skill Loan Scheme support technology-enabled training and improved access to skill education.
- **Initiative by The Ministry of Electronics and Information Technology (MeitY):** MeitY is driving EdTech integration in Indian education by recognising the barriers faced by marginalised groups (women, SC/ST, EWS, PwDs, and senior citizens). MeitY offers tailored training programmes designed in Indian languages for accessibility in remote areas. Under the Pradhan Mantri Gramin Digital Saksharta Abhiyaan (PMGDISHA), over 6.67

crore citizens have already been trained in digital literacy basics like MS Office, cyber hygiene.

Recognising a digital skills divide between urban and rural regions, MeitY invests in the expansion and modernisation of NIELIT centres nationwide. The NIELIT network, with 47 own centres and more than 700 accredited training centres, is being upgraded with smart classrooms, IoT labs, AI studios, and digital learning platforms.

Private Sector Initiatives Supporting Rural Education

Several private sector EdTech initiatives significant contributing to improving education in rural areas. They offer interactive video lessons and personalised learning experience.

- **Google's Internet Saathi Programme** focuses on improving digital literacy among rural women through community-based training. By equipping women with digital skills, the programme indirectly supports children's access to technology-enabled learning opportunities.
- **Initiatives by CSO/NGOs:** Civil Society Organisations (CSOs) and NGOs are also working to address learning challenges faced by rural children by using a variety of digital tools to improve literacy and numeracy skills and supports teachers and parents by strengthening classroom learning through accessible digital content. Pratham Education Foundation's tablet-based learning programmes provide engaging and region-specific educational content in local languages. EkStep's open digital learning platform offers free educational resources aligned with different school curricula.
- **Teach For India's TFlx Programme:** The TFlx programme supports social entrepreneurs in developing localized EdTech solutions tailored to the specific needs of rural communities, ensuring that educational interventions remain relevant and effective.

Additionally, initiatives such as the IndiaAI Mission and the Centres of Excellence for AI are playing a pivotal role in this transformation. These efforts are expanding access to computing infrastructure, promoting research and innovation, and enabling startups and educational institutions to develop solutions that directly benefit learners and communities. PARAKH (PRS 2024) data reveals a changing pattern in learning outcomes between rural and urban students. According to the PRS



scores, rural students in Grade 3 marginally outperform urban students, scoring 64 per cent in Language and 60 per cent in Mathematics, compared to urban averages of 63 per cent and 59 per cent respectively. However, in Grades 6 and 9, rural students continue to lag behind their urban students in learning outcomes.

Challenges

- **Improving Internet Connectivity and Infrastructure:** Reliable broadband and mobile network connectivity must reach remote regions to ensure uninterrupted access to online learning.
- **Promoting Digital Literacy:** Training programmes that develop basic digital skills among students, teachers, and parents are essential for the effective use of EdTech tools. Community centres and local NGOs can play a vital role in organising digital literacy workshops and awareness campaigns.
- **Localisation of Content:** Collaboration with local educators and community stakeholders can help create more relevant and effective educational solutions on EdTech platforms.
- **Strengthening Public-Private Partnerships:** Cooperation among governments, and non-profit organisations can pool resources, expertise, and innovation to expand EdTech initiatives and address

challenges related to funding and sustainability.

- **Ensuring Affordability and Equal Access:** Affordable or free access to EdTech platforms is crucial for promoting educational equity.
- **Continuous Monitoring and Evaluation:** Establishing systems to regularly assess the effectiveness of EdTech initiatives will help identify gaps and improve implementation.

Way Forward

EdTech has emerged as a transformative force with the potential to revolutionise rural education. India is committed to ensuring equitable and quality education for all, based on the principles of Sustainable Development Goal 4 and to emerge as a global leader while advancing the vision of *Viksit Bharat 2047*. Digital learning is a fundamental necessity for children in rural India for education and skill development. By integrating advanced technology with effective pedagogical practices, teacher engagement, parental participation, it can hugely improve the learning outcomes. Digital/Online apps, platforms, videos/shorts, channels, communities are norms of the day and reshaping the learning process. Anywhere and anytime quality education to all through Edtech is transforming NEP vision that “No child is left behind” and “Learning for Lifetime” into reality. □



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