



Digital Indian Classroom in 21st Century

Sk Abdul Hamid

Assistant Professor, Indian Institute of Education

Abstract: *The National Education Policy (NEP) 2020 represents a transformative framework for reshaping India's education system in alignment with 21st-century digital competencies and global standards. The policy emphasizes the integration of digital pedagogy, technology-enhanced learning, and virtual classrooms as essential components for equitable and inclusive education (Ministry of Education, 2020). NEP 2020 envisions a shift from traditional rote-based learning to competency-based, flexible, and learner-centered models that leverage Information and Communication Technology (ICT) tools and digital platforms to promote critical thinking, creativity, and collaboration (Kumar & Bansal, 2022). The implementation of digital pedagogy under NEP 2020 focuses on the use of platforms such as SWAYAM, DIKSHA, and ePathshala, along with AI-enabled adaptive learning systems to enhance accessibility and personalization in education (NITI Aayog, 2021). The COVID-19 pandemic further accelerated the adoption of virtual classrooms, highlighting both the potential and challenges of digital transformation in teaching and learning. Teachers are now required acquire Technological Pedagogical Content Knowledge (TPACK) to effectively design and deliver digital lessons in diverse learning environments. This paper explores the multidimensional role of NEP 2020 in fostering digital inclusion, enhancing teacher preparedness, and promoting experiential and blended learning through virtual classrooms. It also discusses the policy's implications for addressing.*

Keywords: Diksha, Swayam, Epathshala.

Introduction: The Indian Knowledge System (IKS), with its vast repository of insights in science, philosophy, art, medicine, and ecology, offers rich possibilities for holistic and sustainable education. However, integrating IKS into contemporary classrooms is constrained by limited resources, accessibility challenges, and the absence of systematic pedagogical models. This paper explores how digital tools can transform the teaching and learning of IKS by enhancing engagement, accessibility, and interaction for twenty first century learners (National Education Policy [NEP], 2020). Drawing on emerging practices such as augmented and virtual reality, gamified learning platforms, learning management systems, and digital storytelling, the paper illustrates how ancient Indian texts, practices, and traditions can be presented in immersive and learner centred ways (Lambert, 2013; Prensky, 2001). Particular infrastructural inequities, and cultural sensitivity. By highlighting the synergy between technology and traditional knowledge, the paper proposes broad strategies for educators and institutions to integrate IKS meaningfully into digital pedagogy (Indian Knowledge Systems, Vol. 1). Such integration not only contributes to preserving India's intellectual heritage but also aligns with global shifts towards educational systems that emphasize sustainability, critical thinking, and cultural appreciation. IKS pedagogy for a digitally empowered generation can ensure that this timeless knowledge continues to inspire and guide future learners.

DIKSHA, SWAYAM, and ePathshala are Government of India digital initiatives that help students by providing free, high-quality, and accessible educational resources across different grade levels. They standardize learning, bridge the print-digital divide, and offer personalized study tools.

Diksha Designed primarily for school students (Grades 1 to 12), DIKSHA integrates digital content with physical textbooks. **PIB Energized Textbooks:** Students can scan QR codes in their physical textbooks using the DIKSHA Platform to access associated videos, interactive exercises, and quizzes. **Accessible Learning:** Includes inclusive features like audiobooks and Indian Sign Language (ISL) videos for students with special needs. **Self-Assessment:** Offers unlimited practice questions and detailed solutions so learners can test their understanding and clear doubts.

SWAYAM is a Massive Open Online Course (MOOC) platform designed for Class 9 students through to Post-Graduation. **Scribd Expert-Led Courses:** Students can access thousands of interactive courses created by top-tier institutions like IITs, IIMs, and NCERT on the SWAYAM Portal. **Comprehensive Learning:** Each course includes video lectures, downloadable reading material, self-assessment tests, and an online discussion forum. **Swayam Certification:** Students can earn official certificates by completing courses and opting for a final proctored.

ePathshala Developed by NCERT, ePathshala acts as a comprehensive digital library for students, educators, and parents. **PIB +3E-Textbooks:** Students can download and read NCERT textbooks (from Classes 1 to 12) in multiple languages (Hindi, English, Sanskrit, and Urdu) for free. **PIB Multimedia Resources:** The ePathshala Portal hosts thousands of audiobooks, flipbooks, and educational videos. **PIB +2 Flexible Access:** Available as both a web portal and mobile app (Android, iOS, Windows), making it convenient to study offline or on the go. **PIB +1** If you tell me what grade you are in or what specific subjects you are studying.

Findings: **DIKSHA** (Digital Infrastructure for Knowledge Sharing) Designed as “One Nation, One Digital Platform,” DIKSHA is the primary infrastructure for school and teacher education. **Central Institute of Access to Energized Textbooks:** Features physical NCERT/state board textbooks linked to QR codes that instantly open related digital content, videos, and practice questions. **PIB Teacher Professional Development (TPD):** Provides self-paced, certified training courses to upskill educators nationwide. **PIB Inclusive Learning:** Offers accessible formats like text-to-speech, DAISY, and Indian Sign Language (ISL) videos for students with disabilities.

SWAYAM is the government’s Massive Open Online Course (MOOC) platform, primarily targeted at high school, college, and university learners. **Curriculum Access:** Hosts courses created by top-tier institutions like the IITs, IIMs, and NCERT. **Certification:** Allows students to take exams for a nominal fee to earn recognized academic credits and certificates. **Flexible learning:** Breaks down courses into four quadrants: video lectures, e-reading material, self-assessment tests, and online discussion.

ePathshala is a joint initiative by the Ministry of Education and NCERT that serves as a massive, centralized repository for educational content. **Digital Textbooks:** Provides free access to all NCERT textbooks (from Class 1 to 12) in multiple languages (English, Hindi, and Urdu), which can be read online or downloaded offline. **Supplementary Resources:** Contains curated audio files, video lectures, workbooks, and interactive resources. Offers dedicated interfaces tailored specifically to the needs of students, educators, and parents. If you would like to explore these further, let me know if you want to know how to register for a course on SWAYAM, how to scan QR codes for DIKSHA, or how to download ePathshala textbooks offline.

Discussion:

DIKSHA: The Digital Infrastructure for Knowledge Sharing, which provides e-content for students and teachers across various states and boards. **Digital Infrastructure for Knowledge Sharing** is a national digital education platform initiated by the Government of India. Launched in 2017 by the NCERT and Ministry

of Education, it provides e-books, interactive quizzes, video lessons, and teacher training modules for students, teachers, and parents across the country. Physical school textbooks include QR codes that students and teachers can scan using the app to instantly access supplementary digital content. Offers online professional development courses and certification for educators to enhance their teaching skills. Supports over 30 Indian languages, ensuring content is accessible to learners across various regions. Features specialized content like audiobooks, dictionaries, and Indian Sign Language (ISL) videos for Children With Special Needs (CWSN).

In a traditional and religious context, Diksha (Sanskrit: दीक्षा) translates to “initiation” or “consecration”. It refers to the formal ritual or ceremony in Indian religions (such as Hinduism, Buddhism, and Jainism) where a guru gives a spiritual mantra or initiates a devotee into a serious spiritual discipline or path.

SWAYAM: (Study Webs of Active-Learning for Young Aspiring Minds) is a free online education platform launched by the Government of India. It offers massive open online courses (MOOCs) ranging from high school subjects to postgraduate degrees and skill-building programs, with lectures delivered by top faculty from premier institutions like IITs, IIMs, and UGC. Cost-Free Learning: Access to course materials, video lectures, and quizzes is completely free. Courses are developed by national coordinators like NPTEL, UGC, CEC, NCERT, and NIOS. Students can choose to take proctored exams for a nominal fee to earn verified certificates. Many of these courses allow for credit transfers toward regular university degrees. Each course is structured into video lectures, downloadable reading materials, self-assessment tests, and online discussion forums.

Student can browse, enroll in, and complete courses on your own schedule using any device. Explore available subjects and enroll in classes on the official SWAYAM Portal. If you want to transfer credits, check your university’s guidelines to ensure the chosen SWAYAM course aligns with your current degree requirements.

ePathshala: A joint initiative by the Ministry of Education (formerly MHRD) and the National Council of Educational Research and Training (NCERT) to provide free access to educational resources across India. It acts as a massive digital library for students, teachers, and parents. The platform offers a wide variety of tools and content designed to support learning at home and in the classroom. Complete NCERT textbooks (Classes 1 through 12) available in multiple languages including English, Hindi, and Urdu. Hundreds of audiovisual tutorials, e-magazines, and supplementary study. The app and website allow users to pinch-to-zoom, highlight text, bookmark pages, and take digital notes. Users can download an unlimited number of books for offline use, making it highly accessible for students with limited internet connectivity. Physical NCERT books feature chapter-specific QR codes that can be scanned to directly open related digital resources on the app. Student can access the portal on the web via the ePathshala Portal or download the mobile application from the Google Play Store or Apple App Store.

Conclusion: Digital platforms in India democratize education by bridging geographical divides, providing affordable, high-quality learning materials, and personalizing the educational experience. They are crucial for transforming traditional classrooms into engaging, skills-focused environments, aligning perfectly with the goals of the National Education Policy (NEP) 2020. The importance of digital platforms in India’s education ecosystem spans several key areas. Students in remote villages and smaller towns can access the same lectures and resources as students in metropolitan cities. Platforms increasingly deliver content in regional Indian languages, making learning inclusive for diverse linguistic backgrounds. The Indian government has heavily invested in digital infrastructure to ensure equitable and free access to education. Digital resources significantly reduce the financial burden of purchasing physical books and traveling to distant coaching centers. Recorded sessions and AI-driven platforms allow learners to study at their own pace, accommodating students who might need to work part-time or manage household responsibilities.

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