

PM e-VIDYA and Its Impact on School Education in Assam: Promoting Accessibility and Inclusivity.

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Abstract

Education has the power to transform society. In a developing country like India, it is essential that education is inclusive and accessible to all children, including those with disabilities. Without universal access to education, social and economic development cannot be sustained. Education and economic growth are closely interlinked, as literacy and skills directly influence employment, productivity, and societal progress. Recognising this, the Government of India has implemented several initiatives to improve governance in education, one of the most notable being PM e-VIDYA. Launched in May 2020 under the Atmanirbhar Bharat Abhiyan, PM e-VIDYA aims to provide multi-mode digital learning opportunities, ensuring continuity of education during disruptions such as the COVID-19 pandemic. In Assam, a key state in the North-East with diverse geographical and socio-economic challenges, PM e-VIDYA has played a crucial role in enhancing access to education through platforms like DIKSHA, QR-coded “Energized Textbooks,” DTH channels and radio programmes. This paper examines the PM e-VIDYA initiative and its impact on the education system, with a special focus on Assam, highlighting both achievements and areas for further development.

Keywords: PM e-VIDYA, Digital Education, Inclusive Learning, Assam, Educational Equity.

1.1 Introduction:

In a diverse and developing country like India, ensuring access to quality education for all children—including those from rural areas, marginalised communities and children with disabilities—is critical for fostering inclusive growth. Despite significant progress in the education sector, challenges such as limited infrastructure, uneven teacher availability, socio-economic disparities, and geographic isolation continue to affect learning outcomes, particularly in North-Eastern states like

Assam. To address these challenges and maintain continuity of education during disruptions such as the COVID-19 pandemic, the Government of India launched PM e-VIDYA in May 2020 under the Atmanirbhar Bharat Abhiyan. This flagship initiative integrates digital, online, and broadcast-based learning platforms to ensure equitable access to education across the country. In Assam, where a significant portion of the population resides in rural and remote areas, PM e-VIDYA has played a pivotal role in bridging educational gaps,

supporting differently-abled learners, and reducing socio-economic disparities in learning. This paper explores the implementation, impact, and challenges of PM e-VIDYA in Assam, highlighting its contribution to building a resilient, inclusive, and digitally empowered education system.

1.2. Research Methodology

This study uses a qualitative and descriptive approach to examine the implementation and impact of PM e-VIDYA in Assam. Data is collected from government reports, SCERT Assam publications, PM e-VIDYA guidelines, scholarly articles, and digital platforms like DIKSHA and DTH channels. The analysis focuses on accessibility, inclusivity for differently-abled and multilingual students, teacher capacity-building, and socio-economic impacts. Although limited to school education in Assam and primarily based on secondary sources, the study provides insights into the effectiveness, challenges, and contribution of PM e-VIDYA towards a more inclusive and digitally empowered education system in the state.

1.3. Objectives of the Study

1. Examine the implementation of PM e-VIDYA in Assam.
2. Assess accessibility and inclusivity for all learners, including differently-abled and multilingual students.
3. Analyse the socio-economic and educational impact on students, teachers, and households.
4. Identify challenges and suggest improvements for digital education

in the state.

1.4. Discussion

PM e-VIDYA (Prime Minister's Education through Virtual/Digital & Interactive Access) is a flagship initiative launched on 17 May 2020 under the Atmanirbhar Bharat Abhiyan by the Ministry of Education. The programme was introduced in response to the COVID-19 pandemic to ensure continuity of learning and has since become a long-term digital education strategy. Its main goal is to unify digital, online, and broadcast-based education and provide multi-mode access to school children and teachers. The initiative is designed to benefit nearly 25 crore school-going children across India. The objective of PM e-VIDYA is to bridge the digital divide and make education accessible to every child, irrespective of geography, language, or socio-economic background. By using a blend of internet platforms, television, and radio, the programme ensures that children with limited or no internet connectivity can continue their education. It also focuses on creating inclusive content for Children with Special Needs (CWSN) and aligning all efforts with the vision of Digital India and the National Education Policy (NEP) 2020.

1.4.1. Key Components of PM e-VIDYA

Pradhan Mantri e-VIDYA (PM e-VIDYA) initiative aims to ensure continuity of school education in India through multiple digital and broadcast platforms. It is a comprehensive programme that brings together various key components. The key components are discussed below:

The DIKSHA (Digital Infrastructure for Knowledge Sharing) platform serves as

the “One Nation, One Digital Platform” for school education. It hosts e-content created by NCERT and States/UTs in multiple Indian languages and includes “Energized Textbooks” with QR codes that link to digital resources. Students can access videos, interactive exercises, and reading materials directly through the DIKSHA app or web portal.

The SWAYAM portal provides free Massive Open Online Courses (MOOCs) for learners ranging from Classes 9 - 12 and higher education. It enables flexible, self-paced learning and also supports teacher training. In addition, the SWAYAM Prabha initiative delivers curriculum-based content through 200 dedicated DTH television channels under the model of “One Class–One Channel.” These channels operate 24×7 and ensure that students without internet connectivity can still access quality education.

To expand reach beyond internet and television, PM e-VIDYA also includes radio, community radio, and podcasts such as “Shiksha Vani.” This ensures learning continuity in remote and rural areas where digital penetration is limited. Moreover, the initiative emphasises inclusivity by developing special e-content for Children with Special Needs (CWSN). Materials are made available in Indian Sign Language, DAISY format, and audio formats so that visually impaired and hearing-impaired learners are not left behind.

Additionally, the programme incorporates online coaching and digital initiatives such as IITPAL (IIT Professor Assisted Learning) for science subjects and e-Abhyas practice modules by NTA for competitive examinations. The

Union Budget 2022-23 also announced the creation of 750 virtual labs and 75 skilling e-labs under PM e-VIDYA to enhance experiential learning in science, mathematics, and vocational education for classes 6–12.

PM e-VIDYA has transformed India’s approach to education by bringing together multiple modes of learning—online, offline, and on-air—under a single umbrella. It has played an important role in reducing learning disruptions during COVID-19 and continues to support remote and blended learning models. The initiative not only empowers students but also equips teachers with digital tools and resources. By promoting inclusive, equitable, and technology-enabled education, PM e-VIDYA represents a major step towards achieving the goals of NEP 2020 and the larger vision of a Digital India.

1.4.2. PM e-VIDYA in Assam

Assam, a North-Eastern state, faces developmental challenges and faces numerous challenges such as poor communication networks, inadequate infrastructure, and limited employment opportunities. As a largely rural state, Assam also faces challenges in the education sector, where many students are unable to pursue schooling or access quality education. Education is important for both individual well-being and broader social and economic development. In this context, under the Atmanirbhar Bharat initiative, PM e-VIDYA has played a significant role in improving the education landscape in Assam, helping students gain access to learning despite various obstacles. Its impact is discussed here:

1. DIKSHA in Assam

Assam has its own state page on the national DIKSHA portal, developed under the Elementary Education Department, Government of Assam. On this platform, teachers, teacher educators, and the State Council of Educational Research and Training (SCERT), Assam upload e-content in multiple formats such as audio, video, interactive lessons, and practice resources. Special efforts are also made to include content for Children with Special Needs (CWSN), including materials in sign language and audio-based lessons for visually impaired learners.

2. Energized Textbooks (QR-Coded Textbooks)

Assam has introduced Energized Textbooks (ETBs), which are printed books integrated with QR codes. These QR codes, when scanned through the DIKSHA mobile app or a QR scanner, give students access to digital learning materials such as videos, interactive modules, and audio resources linked to each chapter. As of the 2021 academic session, 152 textbooks in Assam were energised, with around 2,564 QR codes embedded. These cover both elementary and secondary levels across subjects such as Assamese, English, Science, Mathematics, Social Science, and Environmental Studies. Textbooks are made available in multiple languages—Assamese, English, Bodo, Bengali, and Hindi—to ensure inclusivity for all learners.

3. Synchronous and Asynchronous Learning Modes

Under PM e-VIDYA, Assam provides both synchronous (live/broadcast)

and asynchronous (on-demand) learning opportunities. Educational content is telecast through Swayam Prabha DTH TV channels and All India Radio (AIR), and is later uploaded to DIKSHA for students to access at any time. During the COVID-19 pandemic, Assam strengthened this model by creating both QR-coded and non-QR-coded digital textbooks and e-content to ensure continuity of education during lockdowns.

4. Capacity Building and Content Creation

SCERT, Assam has actively conducted workshops and training programmes to build teachers' capacities in developing e-content. These include training in interactive content design, use of open-source software, storyboarding, translation, and content curation. The VidyaDaan programme, launched in Assam on 7 June 2020, further encouraged teachers and experts to contribute digital content aligned with the state's curriculum, thereby enriching the pool of resources available on DIKSHA.

5. Recent Developments and Data

According to the Annual Report 2023–24 of SCERT, Assam, around 180 textbooks have been energised and linked with e-content on DIKSHA. Special emphasis has been placed on multilingual content development. For example, a rhyme book has been created in 15 regional languages, with 76 rhymes recorded in 11 languages and made available on DIKSHA. Additionally, descriptive audiobooks have been prepared for visually impaired students for Environmental Studies (EVS)

for Classes 3, 4 and 5 in Assamese and Hindi medium schools.

6. DTH/PM e-VIDYA Channels in Assam

Assam also benefits from five dedicated DTH television channels under PM e-VIDYA. These channels broadcast curriculum-based video classes 24×7, catering to different class ranges and teacher education. For example, Channel 2058 (DD PM e-Vidya 58) covers Classes I-V, Channel 2059 covers Classes VI-VIII, Channel 2060 is for Classes IX-X, while higher secondary and teacher education are covered through Channels 2061 and 2062 respectively. These channels ensure that children in areas with poor internet connectivity can continue learning.

1.4.3. Socio-economic Impact of PM e-VIDYA:

The PM e-VIDYA initiative has been highly relevant in Assam, a state with diverse geography and socio-economic conditions. With large rural and riverine populations, many children in Assam face barriers to internet access and modern infrastructure. Through the “One Class, One Channel” scheme and DIKSHA portal, PM e-VIDYA created alternative avenues for continuity of learning during COVID-19, ensuring that students in remote areas, tea-garden areas and flood-affected regions could still access some form of education. At the 26th Children's Educational Audio-Video Festival and ICT Mela in 2021, organised by CIET, NCERT, New Delhi, Assam's Education Department received the "Best Video Programme Award" for its outstanding videos: "World of Kahaar",

"Rangsapara" and "Magh Bihu".

One of the most important socio-economic effects in Assam has been the expansion of access and equity. In many villages, where internet penetration remains limited, television and All India Radio broadcasts under PM e-VIDYA played a crucial role. The initiative also supported children with disabilities in Assam through sign language and audio-visual content, reducing the exclusion of differently-abled students. This helped bridge the digital divide between urban centres like Guwahati and rural districts such as Dhemaji, Kokrajhar and Karimganj.

The scheme also reduced economic pressure on families in Assam, many of whom depend on agriculture, daily-wage labour or the tea industry. With free content available via TV, radio, and QR-coded textbooks, households did not have to spend on private tuition or costly internet packages. For families hit by pandemic-related income losses, this was a significant relief that allowed children to continue their education without dropping out.

PM e-VIDYA in Assam also promoted innovation in teaching and learning. The SCERT Assam actively uploaded e-content on the DIKSHA portal, covering lessons in Assamese, Bodo, Bengali, and other languages spoken in the state. Energized Textbooks with QR codes became useful for both students and teachers, encouraging blended learning. Teachers in Assam received training to use digital pedagogy, gradually building capacity for future hybrid education models.

The scheme also enhances future employability and skill development, which

is an economic impact often overlooked. By promoting digital literacy among students and teachers, PM e-VIDYA equips them with skills that are increasingly demanded in the labour market. For Assam, which has limited industrialisation but growing IT and services sectors in urban centres like Guwahati, this exposure can improve long-term economic opportunities.

Furthermore, PM e-VIDYA reduces regional economic disparities in education. Students from remote districts of Assam, like Karbi Anglong, Dhemaji and Barpeta, now have access to similar educational content as students in Guwahati or Dibrugarh. Over time, this can help reduce the income and opportunity gaps between rural and urban populations, improving economic mobility.

Socially, the programme helped reduce inequalities. In Assam, where socio-economic disparities are high between urban and rural areas and among communities such as tea tribe communities, Scheduled Tribes, and flood-affected populations, PM e-VIDYA ensured that these groups were not left completely disconnected from formal education. Its inclusivity aligned with Assam's multilingual and multicultural character, strengthening the principle of equal opportunity in schooling.

Lastly, by reducing reliance on private tuition and expensive study aids, PM e-VIDYA indirectly contributes to more efficient household budgets. Families can redirect limited resources towards essentials like nutrition, health, or savings, which may broader economic benefits in reducing vulnerability and improving overall welfare.

1.5. Limitations:

One major limitation of PM e-VIDYA is the digital divide. Although the initiative provides content through TV, radio, and online platforms, many students, especially in rural Assam or flood-prone areas, lack access to smartphones, computers, or stable internet connections. Without these devices, students cannot fully utilise the DIKSHA portal or virtual labs, limiting the effectiveness of the programme.

Another key limitation is the quality of learning outcomes. Access to digital content does not automatically ensure comprehension or retention. Students learning at home often lack guidance, peer interaction, or teacher support, which can result in gaps in understanding. This is particularly relevant in Assam's remote districts, where parental literacy may be low and home-based supervision limited.

Language and localisation barriers also reduce effectiveness. While PM e-VIDYA content is available in multiple languages, Assam's linguistic diversity—including Assamese, Bodo, Bengali, and tribal languages—means that not all students can access lessons in their mother tongue. This can hinder engagement and learning, especially for younger children.

Teacher preparedness is another limitation. Not all teachers are trained or comfortable with digital pedagogy. In Assam, many rural educators may lack the experience or infrastructure to effectively supplement online lessons, which can reduce the quality of education delivered.

Environmental and infrastructural challenges further limit impact. Frequent floods, electricity outages, and TV or

radio disruptions in remote areas can prevent students from accessing lessons consistently. This makes continuity of learning unpredictable in certain regions.

There is also a risk of social and emotional impacts. Prolonged home-based learning can lead to reduced peer interaction, digital fatigue, and limited socio-emotional development, aspects that are harder to measure but critical for holistic education.

1.6. Suggestions

To enhance the effectiveness of PM e-VIDYA in Assam, it is essential to address its current limitations and adapt the programme to local needs. While the initiative has expanded access to education and reduced costs for households, challenges such as limited digital infrastructure, language diversity, teacher preparedness, and socio-emotional challenges remain. Implementing targeted improvements can ensure that all students, especially those in rural, remote, and flood-prone areas, benefit fully from digital learning opportunities.

To achieve this, digital infrastructure should be strengthened by improving internet connectivity, electricity supply, and access to TVs or devices in remote regions. Learning content must be expanded in regional languages, including Assamese, Bodo, Bengali, and tribal languages, with culturally relevant examples to enhance comprehension and engagement. Teachers should receive regular training in digital pedagogy to effectively guide students and supplement online lessons. For areas with

poor connectivity, offline learning options such as downloadable content, USB drives, or community learning centres should be provided. In addition, parents and local communities should be actively involved to support home-based learning, while regular assessments and monitoring can help track student progress and address learning gaps. Finally, incorporating interactive sessions and socio-emotional learning activities can reduce isolation and digital fatigue, making online education more holistic and effective.

1.7. Conclusion

In conclusion, PM e-VIDYA has played an important role in maintaining educational continuity in Assam, reaching an estimated 25 crore school children nationwide through multi-mode platforms like DIKSHA, DTH TV channels, and radio. In Assam, it has particularly benefited students in rural, flood-prone, and remote areas, including areas such as Dhemaji, Karbi Anglong and char regions, while also supporting differently-abled learners through sign language and audio-visual content. The initiative has reduced household expenditure on education, promoted digital literacy, and supported long-term human capital development. However, limitations such as gaps in digital infrastructure, linguistic diversity, uneven teacher preparedness, and socio-emotional challenges persist. Strengthening connectivity, providing regional-language content, enhancing teacher training, enabling offline access, and promoting community engagement

can improve its effectiveness. Overall, Assam and building a resilient, inclusive, PM e-VIDYA represents a significant step and digitally empowered education system. towards bridging educational disparities in

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