

E Governance and Digital Education Initiative after Covid-19 : with Special Reference to Dibrugarh District of Assam

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Abstract :

The COVID-19 pandemic created an unexpected disruption in the whole socio-economic political as well as education system of the world affecting students, teachers, institutions and policy makers across the world. Among these the effect on education is quite challenging for policy makers. With the closure of all educational institution, learning suddenly shifted from classrooms to digital platforms, making technology an essential part of education. In India, e-governance emerged as a vital tool in facilitating education through online platforms, virtual classrooms, and digital resources to ensure that education could continue despite the pandemic COVID crisis.

This paper is an attempt to explore how e-governance supported digital education in the post-COVID period, with special reference to Assam. It examines the various initiatives taken by the government, such as online classes, television-based learning, and mobile-based education, and analyses their impact on students and teachers. The study also highlights the challenges faced by rural Assam where many learners, especially in rural areas, faced difficulties due to limited internet access, lack of devices, insufficient technological infrastructure and insufficient digital literacy rate among students' parents and educators. These structural constraints have contributed to unequal learning outcomes and have, in certain contexts, exacerbated existing socio-economic and regional disparities. Both descriptive and analytical methods will be used to achieve the objectives using both primary and secondary sources of data.

Key words : COVID-19, E- Governance, Digital Platform, Virtual Classroom, etc.

1. Introduction :

The outbreak of the COVID-19 led the closure of educational institution world wide and marked a turning point in the history of education by disrupting conventional modes of teaching and learning across the world. With the sudden closure of schools, colleges, and universities, education systems were compelled to rapidly shifted towards digital education system. This shift was not merely a temporary adjustment but signalled a broader transformation in the way education is delivered and governed. In this context, e-governance emerged as a crucial mechanism through which governments could facilitate, regulate, and support digital education. In India, the transition to online learning was supported by a range of policy measures and digital initiatives aimed at minimizing learning disruptions. Platforms providing e-content, virtual classrooms, and broadcast-based learning became central to the education system during and after the pandemic. However, the effectiveness of these initiatives has not been uniform across regions, as access to digital infrastructure and technological resources varies significantly. Assam, being a predominantly

rural state with infrastructural limitations, faced unique challenges in adapting to this sudden shift. However, it also witnessed significant developments in digital learning initiatives.

At the same time, the state government undertook several efforts to promote digital education, highlighting both the potential and limitations of e-governance in such contexts. The present study seeks to examine the role of e-governance in shaping digital education in the post-COVID era, with special reference to Assam. It aims to understand how digital initiatives have been implemented, assess their impact on students and teachers, and identify the key challenges that influence their effectiveness. By doing so, the study attempts to provide a balanced perspective on the opportunities and constraints associated with the growing reliance on digital education.

2. Objectives:

The objective of this study are as follows

- a. to examine the role of e-governance in the development of digital education after COVID-19 pandemic.
- b. It also aims to examine the various digital education initiatives implemented in Assam,
- c. To identify the challenges faced by students and teachers of rural areas
- d. To evaluate the effectiveness of government policies.
- e. To suggest measures for improving digital education in the region.

3. Methodology :

The present study used both descriptive and analytical methods in order to achieve the objectives. Both primary and secondary sources of data are used. Primary data is collected through a structured questionnaire administered to students and teachers, . Secondary data are collected from government reports, policy documents, academic journals, and other relevant published sources related to e-governance and digital education.

4. Area of study :

The geographical scope of the study is limited to the Dibrugarh District of state of Assam. Special attention is given to comparing rural and urban contexts in order to identify disparities in the implementation and effectiveness of digital education initiatives.

5. Size of Sampling:

The study adopts a purposive sampling method to select respondents from educational institutions of Dibrugarh District in Assam. A sample size is 150 respondents, including both students and teachers, is considered to ensure representation from different backgrounds. The sample includes participants from both rural and urban areas to capture variations in digital access and

6. Conceptual Understanding :

a. E-Governance :

E-governance refers to the use of Information and Communication Technology (ICT) by the government to deliver government services, exchange information, and ensure interaction between the government and citizens in a transparent, efficient, accessible and accountable way .In the post-COVID period, e-governance evolved from a supplementary administrative tool into a central mechanism of governance, ensuring continuity of public services even during disruptions. It emphasizes the shift from traditional pen-paper administration to a digital, citizen-centric system that allows services to be accessed anytime and from anywhere.

b. Digital education :

Digital education refers to the use of digital technologies, online platforms, and electronic resources to facilitate teaching and learning processes. In the aftermath of the COVID-19 pandemic, digital education became an essential component of the education system rather than merely a supplementary method. It evolved into a blended system combining online and offline methods.

E-governance and digital education are closely interconnected, E-governance and digital education are closely interconnected, as digital education is supported by the infrastructure and policies provided through e-governance systems. Together, they contribute to the development of a knowledge-based society, although challenges such as the digital divide and infrastructural limitations continue to affect their implementation.

7. E-Governance Initiatives after COVID-19

In the post-COVID period, the Government of India expanded various digital initiatives to ensure efficient service delivery. Earlier, people had to visit government offices, stand in long queues, and submit papers physically for even small services. But during and after COVID-19, this became difficult due to lockdowns and safety concerns. As a result, the government started using digital systems more actively, which is known as e-governance.

At the state level, the Government of Assam has implemented several e-governance initiatives, many such initiatives were introduced and improved. Some such initiative are as below .

- a. **E-Office system** :One important example is the **e-Office system** . Earlier, files in government offices were moved manually from one table to another, which took a lot of time. Now, with e-office, files are handled digitally. For example, if a land-related file needs approval, it can be sent online from one officer to another within minutes instead of days. This has made work faster and reduced delays.
- b. **SewaSetu** :**SewaSetu**, is Another useful initiative which is a digital platform where people can apply for different services from home. For instance, if someone in Dibrugarh needs a caste certificate or income certificate, they no longer have to visit the office multiple times. They can apply online, upload documents, and even track the status of their application. This saves both time and money.
- c. **E-Panchayat systems** :In rural areas, **e-Panchayat systems** have been introduced to make village-level administration more transparent. For example, records of government schemes like housing or job cards are now maintained digitally. This helps reduce corruption and ensures that benefits reach the right people.
- d. **Digital payment systems** :Digital payment systems are also an important part of e-governance. Earlier, people had to pay taxes or fees in cash at offices, but now payments can be made online. For example, a shop owner in Dibrugarh town can pay trade license fees or property tax using a mobile phone without visiting any office.

In Dibrugarh district, these changes are clearly visible. Being an important town in Upper Assam, many government offices here have adopted digital systems. Students, farmers, and common citizens are gradually becoming more comfortable using online services. For example, students

applying for scholarships or admissions can now complete most of the process online from their home .

However, the situation is not the same everywhere especially in rural areas . In some rural areas of Dibrugarh district, people still face problems due to poor internet connectivity or lack of smartphones. In some areas the villagers may still need help from others to fill out an online form. Even with these challenges, the impact of e-governance has been mostly positive. It has made government services faster, more transparent, and easier to access. People no longer travel long distances for simple work and thereby make administrative system more modern and citizen-friendly. However, to make these benefits reach everyone, the government needs to improve internet connectivity, provide digital awareness, and ensure that rural areas are not left behind.

8. Digital Education Initiatives after COVID-19

The Government of India introduced several digital education initiatives to ensure continuity of learning during and after the pandemic. Platforms such as DIKSHA provide digital learning materials, while SWAYAM offers online courses for higher education. The PM e-Vidya programme integrates various digital learning resources to support students across the country. In Assam, digital education initiatives include online classes, teacher training programs, and the use of digital tools for monitoring attendance and performance. Educational institutions in Dibrugarh district have adopted virtual platforms for teaching and learning, enabling students to continue their education despite disruptions. In the post-COVID period, a blended learning approach has become more common, combining online resources with traditional classroom teaching. To meet the challenges faced by Colleges, Dibrugarh University also adopted various digital education techniques for smooth running of teaching learning process. Dibrugarh district has witnessed significant developments in both e-governance and digital education. As an educational hub, the district has several institutions that have adopted digital technologies for teaching learning process as well as in administration. Schools and colleges have implemented online classes, digital study materials, and hybrid learning systems.

9. Impact of E-Governance and Digital Education

The impact of e-governance and digital education after the COVID-19 pandemic has been significant in transforming both administrative systems and learning processes, especially in districts like Dibrugarh in Assam.

- a. E-governance has improved transparency in government functioning by allowing citizens to access information about public services, schemes, and development projects through online platforms, which has reduced corruption and increased accountability. It has also enhanced efficiency in service delivery, as people no longer need to visit government offices physically for basic services such as applying for certificates, paying taxes, or submitting grievances, thereby saving both time and cost.
- b. E-governance has strengthened communication between different government departments, leading to faster decision-making and better coordination during crisis situations like the pandemic. The use of digital platforms has also enabled real-time monitoring of development projects, ensuring that work is completed within deadlines and according to standards. In addition, the adoption of digital systems has contributed to the

development of digital skills among government officials and citizens, gradually creating a more technologically aware society.

- c. Digital education has played a crucial role in ensuring the continuity of learning during the closure of schools and colleges due to COVID-19. Online classes, digital study materials, and virtual interactions between teachers and students helped prevent a complete disruption of education. Even after the pandemic, digital education has continued to influence the system through the adoption of blended learning, which combines traditional classroom teaching with online resources, making education more flexible and accessible.
- d. Digital education has also encouraged the use of innovative teaching methods, such as video lectures, interactive quizzes, and online assessments, which have improved student engagement and understanding in many cases. Moreover, it has helped students develop important digital skills that are essential in today's technology-driven world. Teachers, too, have adapted to new methods of instruction, thereby enhancing their professional skills.

Overall, the impact of e-governance and digital education has been transformative, bringing greater efficiency, accessibility, and innovation, while also revealing areas that require further improvement to achieve inclusive and sustainable development.

10. Challenges of e-governance:

- a. **Lack of Digital Device** :In many rural areas of Dibrugarh district, not every household owns a smartphone or computer. For example, a daily wage worker's family may not have a device to access online services like applying for certificates through SewaSetu, which limits their participation in digital governance.
- b. **Poor Internet Facilities** :Villages in riverine or remote areas of Upper Assam often face weak network signals. For instance, a person trying to upload documents for a government scheme may fail repeatedly due to low internet speed, delaying the application process.
- c. **Lack of Digital Literacy** :Many elderly people in Assam are not comfortable using smartphones or online portals. For example, an older farmer in Dibrugarh may need help from a shop owner or cyber café just to fill out an online form for land-related services.
- d. **Cybersecurity Risks**:Cases of OTP fraud and online scams have increased in Assam. For example, some users have reported losing money after sharing personal details while trying to access online services, which creates fear and distrust.
- e. **Technical Issues**: Government websites sometimes become slow or crash during peak periods. For instance, when many students in Assam apply for scholarships at the same time, the portal may stop working properly, causing delays.
- f. **Language Barrier**: Many platforms are not fully available in Assamese. For example, a villager who is not comfortable with English may find it difficult to understand instructions on online government portals.
- g. **Infrastructure Problems** :Frequent power cuts in some areas of Assam interrupt digital services. For example, if electricity goes out while submitting an online form, the process may fail and need to be restarted.

11. Challenges of Digital Education :There are number of challenges that faced by education

- a. **Digital Divide in Education:** During and after COVID-19, many students in rural Dibrugarh could not attend online classes because they did not have smartphones. In some families, one phone had to be shared among multiple children, affecting learning.
- b. **Network Issues in Online Classes :**Students in tea garden areas or remote villages often face network problems. For example, a student attending an online class through mobile data may get disconnected frequently, missing important lessons.
- c. **Lack of Digital Skills:** Some teachers in Assam initially struggled to use platforms like Zoom or Google Meet. This affected the quality of teaching, especially during the early post-COVID phase.
- d. **Reduced Classroom Interaction:** Students reported difficulty in understanding subjects without direct interaction. For example, science students in Dibrugarh found it hard to grasp practical experiments through online classes alone.
- e. **Health Problems :**Many students experienced eye strain and headaches due to long hours of screen time during online classes.
- f. **Quality of Learning (Practical Subjects) :**Subjects like Physics, Chemistry, and Biology require laboratory work. For example, students could not perform experiments physically, which affected their practical knowledge.
- g. **Language and Content Issues :**Much of the digital content is in English, which can be difficult for students from Assamese-medium schools to fully understand.
- h. **Economic Burden:** Families had to spend money on mobile data and devices. For example, parents in rural Dibrugarh had to recharge data packs frequently, which added extra financial pressure.
- i. **Distractions during Online Learning:** Students using phones for classes often got distracted by social media apps, reducing their focus on studies.

12. Conclusion:

The post-COVID period shown that both e-governance and digital education are essential for modern development, especially in districts like Dibrugarh. These initiatives helped maintain continuity in governance and education during a time of crisis and have since become important tools for improving efficiency, accessibility, and transparency.

In Dibrugarh, e-governance has made public services more citizen-friendly by reducing physical barriers and saving time, while also promoting accountability in administration. At the same time, digital education ensured that students could continue learning despite school closures and has introduced more flexible and innovative teaching methods that are still being used today. However, the experience of Dibrugarh also highlights that digital progress is uneven. Issues such as limited internet connectivity in rural areas, lack of digital devices, and low digital literacy have restricted equal participation. These challenges indicate that technological advancement alone is not enough; it must be supported by proper infrastructure, awareness programs, and inclusive policies.

In conclusion, while e-governance and digital education have brought significant positive transformation in Dibrugarh, their long-term success depends on bridging the digital divide and ensuring that every section of society can benefit equally. With continued investment and inclusive



planning, these initiatives can play a key role in achieving sustainable and equitable development in the region.

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