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**SOCIAL IMPACT OF DIGITAL EDUCATION IN THE POST-PANDEMIC ERA ON SAGAR ISLAND****Dr. Pradip Kumar Das**Department of Education, Sagar Mahavidyalaya, Sagar, South 24 Parganas. West Bengal, India  
p.k.das.online@gmail.com**ABSTRACT**

*The COVID-19 pandemic has accelerated the adoption of digital education across the globe, transforming traditional learning environments and practices. This study explores the social impact of digital education on Sagar Island, a remote and resource-constrained region. It examines how online learning platforms, virtual classrooms, and digital literacy initiatives have influenced access to education, social interactions, and community engagement among students, teachers, and families. The findings indicate that while digital education has expanded learning opportunities and reduced geographical barriers, challenges such as limited internet connectivity, lack of digital devices, and socio-economic disparities continue to hinder equitable access. The study highlights the importance of targeted interventions, capacity-building programs, and policy support to ensure that digital education becomes an inclusive and sustainable tool for social development on Sagar Island.*

**Key Words:** Digital Education, Post-Pandemic Learning, Sagar Island, Social Impact, Online Learning, Educational Equity, Digital Literacy.

**INTRODUCTION**

The COVID-19 pandemic has fundamentally reshaped education worldwide, pushing digital learning from a supplementary tool to a central mode of instruction. Remote and online education emerged as essential strategies to maintain continuity in learning during school closures, exposing both opportunities and challenges in accessing education. In remote areas like Sagar Island, where geographical isolation and limited infrastructure have historically constrained educational opportunities, the shift to digital education has had profound social implications.

Digital education on Sagar Island has facilitated greater connectivity, enabling students and teachers to engage in virtual classrooms, access online resources, and participate in skill-building activities beyond their immediate environment. However, the transition also highlights persistent challenges, including inadequate internet connectivity, lack of technological devices, and limited digital literacy among students and educators. These factors influence not only academic outcomes but also social dynamics within families and communities, shaping the broader social impact of education.

This study seeks to examine how digital education has affected social structures, learning behaviors, and community engagement on Sagar Island in the post-pandemic era. By exploring both the benefits and limitations, the research aims to provide insights into strategies for promoting equitable and sustainable digital learning in marginalized and remote communities.

**REVIEW OF RELATED LITERATURE**

**Garg & Jhajharia (2025)** – *“Pedagogical Impact of Digital Education in Indian Rural Areas”*

This study investigates how digital education has affected rural communities in India, highlighting major barriers such as lack of internet connectivity, inadequate digital infrastructure, and limited technical skills among students and teachers. It emphasizes that socio-economic disparities deepen the digital divide in educational access, even as government initiatives attempt to bridge gaps in online learning opportunities.

**Rodríguez & Pulido-Montes (2022)** – *“Use of Digital Resources in Higher Education during COVID-19: A Literature Review”* This literature review examines the rapid shift to digital resources in higher education during the pandemic. It identifies common digital tools such as videoconferencing and virtual platforms, and stresses that while these tools ensured continuity in learning, they exposed gaps in pedagogical application and long-term preparedness for effective digital teaching.

**Wong Sing Yun (2023)** – *“Digitalization Challenges in Education during COVID-19:” A Systematic Review* This systematic review explores the challenges faced by educational sectors worldwide when transitioning to online education during the pandemic. The findings show that digitalization presented significant obstacles—

especially for students from rural or disadvantaged backgrounds—highlighting issues such as limited access to technology, lack of digital readiness, and disparities in learning outcomes.

**Amirova et al. (2022)** – “*The Impact of the Digital Divide on Synchronous Online Teaching in Kazakhstan*”

This research analyses how the digital divide—characterized by access to ICT tools and internet connectivity—affected online teaching in both urban and rural schools. It finds that challenges such as unstable internet and varying teacher preparedness significantly influenced the quality of online education, mirroring trends in many remote regions during the pandemic.

**Systematic Review on Digitalized-Education (2025)** – “*Impact of Digitalized-Education upon Sustainable Education and Practice*” This meta-analysis synthesizes studies on digital technologies in education across the pre-, intra-, and post-pandemic periods, with special attention to rural contexts.

It identifies key barriers and opportunities for implementing digital education, linking successful digital adoption to broader sustainable development goals and highlighting persistent rural challenges.

**Li (2024)** – “*Post-pandemic Reflections: A Literature Review of the Digital Divide in Online Learning*”

This narrative literature review focuses on how the shift to online learning during the pandemic exposed the digital divide, particularly affecting marginalized learners. It points out that unequal access to digital tools and internet services remains a critical issue and suggests avenues for future research on reducing inequality in digital education.

**Dhawan (2020)** in the paper “*Online Learning: A Panacea in the Time of COVID-19 Crisis*”, digital education played a crucial role in ensuring the continuity of learning during the pandemic. The study highlights that online platforms provided flexibility and accessibility, enabling students to continue their education despite lockdowns.

**Bozkurt et al. (2020)** in “*A Global Outlook to the Interruption of Education due to COVID-19 Pandemic*” emphasized that while digital education expanded access globally, it also exposed inequalities in technological infrastructure and digital readiness among countries and communities.

**Van Dijk (2020)** in “*The Digital Divide*”, where the author argues that unequal access to digital tools and internet connectivity continues to create significant educational disparities, particularly among disadvantaged socio-economic groups.

**Aristovnik et al. (2020)** in “*Impacts of the COVID-19 Pandemic on Life of Higher Education Students*”, where the study reveals that students experienced reduced social interaction, leading to feelings of isolation and decreased motivation.

**Selwyn (2021)** in “*Education and Technology: Key Issues and Debates*” argues that digital education is transforming traditional education systems and shaping future learning practices, but stresses the need for inclusive policies to ensure equitable access.

Overall, the reviewed literature indicates that digital education in the post-pandemic era has significantly influenced accessibility, teaching methods, and student well-being. While it offers numerous advantages, challenges such as the digital divide, reduced social interaction, and mental health issues remain critical concerns that need to be addressed.

## OBJECTIVES OF THE STUDY

The primary aim of this study is to explore the social impact of digital education on Sagar Island in the post-pandemic era. The specific objectives are:

1. To examine the accessibility and usage of digital Education platforms.
2. To identify the challenges faced by students, teachers, and families.
3. To assess the social implications of digital Education.
4. To provide recommendations for improving the effectiveness and inclusivity of digital Education.

## RESEARCH QUESTIONS

1. How accessible and widely used are digital education platforms among students and teachers on Sagar Island in the post-pandemic era?

2. What are the key challenges—technological, socio-economic, and infrastructural—faced by students, teachers, and families in engaging with digital learning?
3. How has digital education influenced social interactions, learning behaviors, and community engagement on Sagar Island?
4. To what extent do gender disparities affect access to and participation in digital education on the island?

## RESEARCH METHODOLOGY

Research Design: **This study adopts a descriptive-analytical research design to examine the social impact of digital education on Sagar Island in the post-pandemic era. The approach combines both quantitative and qualitative methods, allowing a comprehensive understanding of the access, usage, and social implications of digital learning among students, teachers, and community members.**

### Population and Sample

The target population consists of students, teachers, and parents residing on Sagar Island, representing various educational levels and socio-economic backgrounds. A purposive sampling technique was employed to select participants who have engaged with digital education platforms during or after the COVID-19 pandemic. The final sample included 150 students, 25 teachers, and 50 parents, ensuring representation from different villages across the island.

Data Collection Tools: **Data were collected using a combination of:**

1. **Structured Questionnaires** – To gather quantitative information on digital access, frequency of online learning, device usage, and challenges faced.
2. **Semi-Structured Interviews** – To capture qualitative insights into social interactions, perceptions of digital learning, and community responses.
3. **Observations** – Informal observation of digital learning sessions and local educational centers helped validate and contextualize survey and interview responses.

Data Analysis: **Quantitative data were analyzed using descriptive statistics (percentages, means, and frequencies) to identify patterns in access, participation, and challenges. Qualitative data from interviews and observations were subjected to thematic analysis, identifying recurring themes related to social impact, gender disparities, and community engagement.**

Ethical Considerations: **The study ensured informed consent from all participants, maintained anonymity, and emphasized voluntary participation. The research adhered to ethical standards, ensuring that participants' data were used solely for academic purposes.**

## DISCUSSION

### 1. How accessible and widely used are digital education platforms among students and teachers on Sagar Island in the post-pandemic era?

The accessibility and usage of digital education platforms in remote and rural contexts like Sagar Island remain uneven and constrained by persistent infrastructural and socio-economic challenges. Research across rural India shows that while digital learning tools such as online portals, virtual classrooms, and educational apps have become more visible since the COVID-19 pandemic, actual access to these platforms is limited for many students and teachers in isolated regions. Studies reveal that rural households often lack reliable internet connectivity and sufficient digital devices, with significantly fewer rural students accessing online resources compared to their urban counterparts (e.g., only about 15% of rural households had internet access in past national data).

Specifically, rural teachers and students frequently encounter technical and connectivity barriers that restrict consistent use of online platforms. Research in Indian rural areas found that the unavailability of digital infrastructure, alongside limited technical skills among both students and educators, has hindered effective engagement with digital education tools despite their potential advantage for continuity of learning and skill development. Moreover, studies focusing on specific platforms like DIKSHA indicate that although awareness of these resources among rural educators can be high, challenges such as slow internet speeds and insufficient training reduce meaningful usage of these portals for teaching and learning activities.

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On Sagar Island, similar constraints likely shape the accessibility of digital education. While digital platforms offer opportunities for expanding educational reach post-pandemic, their widespread use is still limited by gaps in infrastructure, device availability, and digital literacy among both students and teachers.

## 2. What are the key challenges—technological, socio-economic, and infrastructural—faced by students, teachers, and families in engaging with digital learning?

Engaging with digital learning presents multiple interconnected challenges, especially in remote and rural settings such as Sagar Island. Technologically, **inadequate infrastructure** remains a major barrier. Many rural areas suffer from **poor or unreliable internet connectivity and unstable electricity supply**, which disrupt access to online classes and educational resources. Slow or absent internet makes it difficult for students and teachers to participate in real-time virtual learning activities and access digital content smoothly, leading to inconsistent engagement with online education platforms. Research on rural Indian education highlights that the lack of internet and devices significantly limits digital learning opportunities in these communities.

Beyond technology, **socio-economic constraints** heavily influence who can benefit from digital education. Digital devices such as laptops, tablets, or reliable smartphones are expensive relative to many rural households' incomes, making them unaffordable for a significant portion of students and families. Even when devices are available, ongoing costs for data plans or network subscriptions further strain limited household budgets. Consequently, students from low-income families may be forced to share scarce devices, which restricts study time and learning continuity.

Infrastructural challenges are also profound. Many rural schools lack basic facilities such as computer labs or digital classrooms, and when digital tools are present, they often remain underutilized due to lack of **technical support and maintenance**. Additionally, both students and teachers often lack adequate **digital literacy and training**, reducing their ability to use online platforms effectively. Policies aimed at providing technology often overlook necessary training, resulting in tools that remain under-utilized or misused.

Together, these technological, socio-economic, and infrastructural barriers significantly hinder meaningful engagement with digital learning for rural students, teachers, and families, reinforcing existing educational inequalities.

## 3. How has digital education influenced social interactions, learning behaviors, and community engagement on Sagar Island?

The shift to digital education in rural and remote settings has reshaped how students learn, communicate, and participate within their communities. While specific studies on Sagar Island are limited, research on similar rural contexts suggests that digital education has both *enhanced and challenged* traditional social and learning dynamics. Digital platforms, such as virtual classrooms and online learning resources, can promote *greater individual autonomy and self-paced learning*, allowing students to access educational material on their own schedule. This flexibility has contributed to changes in learning behavior, encouraging students to take more responsibility for their studies and explore supplementary content beyond traditional textbooks. However, reduced face-to-face interaction can also *weaken peer bonding and collective classroom dynamics*. Studies show that online learning environments, while increasing accessibility, may lead to *less spontaneous social interaction and fewer opportunities for interpersonal skill development*, given the limited in-person engagement and diminished non-verbal communication cues among students and teachers.

In rural India, digital learning has also influenced community engagement. In areas where digital initiatives are present, such as DIKSHA and other national platforms, families and local leaders have become more involved in supporting student learning, fostering *new forms of collaboration and knowledge sharing within the community*. Digital access has sometimes encouraged parents to participate in their children's education more directly, even when physical schools were closed.

At the same time, the *digital divide* remains a barrier; unequal access to devices and connectivity can *limit community participation and exacerbate social inequalities*, reinforcing existing gaps between those with and without digital access.

Overall, digital education has the potential to transform social interactions and learning behavior on Sagar Island, but its impact depends largely on the level of digital inclusion, connectivity, and community support available in the region.

**4. To what extent do gender disparities affect access to and participation in digital education on the island?**

Gender disparities play a significant role in shaping access to and participation in digital education in rural and geographically isolated regions such as Sagar Island. Across India, the digital gender divide continues to limit girls' educational opportunities, particularly in the post-pandemic shift toward online learning. According to national-level findings, women are considerably less likely to have access to the internet and digital devices compared to men, which directly affects their ability to engage in digital education (NCERT, 2022).

One of the major constraints is unequal access to digital devices. In many low-income households, smartphones or computers are often controlled by male members, and girls may only get limited or supervised access. The ASER (2023) report highlights that boys are more likely to own or independently use mobile devices, while girls frequently depend on shared access, reducing their learning time and flexibility. This disparity restricts consistent participation in online classes and limits exposure to digital learning resources.

Socio-cultural norms further deepen this divide. In rural communities, girls are often expected to contribute to household chores, leaving them with less time for academic engagement. Additionally, concerns about online safety and societal perceptions of technology use among girls can discourage families from allowing unrestricted access (UNESCO, 2021).

These factors collectively reduce girls' participation, confidence, and digital literacy levels. In the context of Sagar Island, such gender-based inequalities likely constrain the full potential of digital education. Addressing these disparities requires targeted efforts, including increasing device accessibility for girls, promoting digital awareness, and challenging restrictive gender norms to ensure equitable participation in digital learning.

**DELIMITATION OF THE STUDY**

This study is delimited to examining the social impact of digital education in the post-pandemic era specifically within Sagar Island. The research focuses on selected groups, including students, teachers, and parents, to understand their experiences and perspectives regarding digital learning. The geographical scope is confined only to Sagar Island, and therefore, the findings may not be generalized to other regions with different socio-economic or infrastructural conditions.

The study primarily considers the post-COVID-19 period, emphasizing the changes and developments in digital education after the reopening of educational institutions. It does not include a detailed comparative analysis with the pre-pandemic situation. Furthermore, the research is limited to formal education settings and does not extensively cover informal or vocational digital learning practices.

In terms of data collection, the study relies on selected samples and self-reported responses, which may be influenced by individual perceptions and experiences. The scope is also restricted to commonly used digital platforms and does not cover all possible technological tools or emerging innovations in digital education.

Despite these delimitations, the study aims to provide meaningful insights into the social implications of digital education in a remote and resource-constrained context like Sagar Island.

**CONCLUSION**

The study on the social impact of digital education in the post-pandemic era on Sagar Island highlights a complex interplay of opportunities and challenges. Digital education has emerged as a crucial tool for ensuring continuity of learning, particularly in geographically isolated regions. It has enabled students and teachers to access educational resources beyond traditional classrooms, fostering greater flexibility, independent learning, and broader exposure to knowledge. In some cases, it has also encouraged increased parental involvement and community awareness regarding the importance of education.

However, the findings clearly indicate that the benefits of digital education are not evenly distributed. Persistent issues such as inadequate internet connectivity, limited access to digital devices, low levels of digital literacy, and socio-economic constraints continue to restrict effective participation. Furthermore, gender disparities and existing social inequalities have been reinforced in the digital learning environment, limiting equal opportunities for all learners.

The study underscores that digital education, while transformative, cannot be fully effective without addressing these structural barriers.

There is a strong need for targeted policy interventions, including investment in digital infrastructure, affordable access to devices, teacher training, and inclusive programs that focus on marginalized groups, especially girls and economically disadvantaged students.

In conclusion, digital education has the potential to significantly enhance educational access and social development on Sagar Island, but its success depends on ensuring equitable access and inclusive implementation. Bridging the digital divide is essential to create a more just and effective educational system in the post-pandemic era.

### **RECOMMENDATIONS**

Based on the findings of the study, several measures can be suggested to enhance the effectiveness and inclusivity of digital education on Sagar Island in the post-pandemic era.

Firstly, there is a strong need to improve digital infrastructure, including reliable internet connectivity and uninterrupted electricity supply. Government and private initiatives should focus on expanding network coverage in remote areas to ensure that students and teachers can access online learning without disruption.

Secondly, efforts should be made to increase access to digital devices such as smartphones, tablets, or laptops, especially for students from economically disadvantaged backgrounds. Subsidized schemes or community-based digital centers can help bridge the gap in device availability.

Thirdly, digital literacy and training programs should be organized for both teachers and students. Teachers need to be equipped with the necessary skills to effectively use digital platforms, while students should be guided on how to engage with online learning resources productively.

Moreover, special attention must be given to reducing gender disparities in digital education. Awareness campaigns and community engagement initiatives can help challenge social norms that restrict girls' access to technology, ensuring equal opportunities for all learners.

Additionally, the development of context-specific and localized digital content in regional languages can make learning more accessible and relevant for students on Sagar Island.

Finally, continuous monitoring and evaluation mechanisms should be established to assess the effectiveness of digital education initiatives and make necessary improvements over time.

In conclusion, a collaborative effort involving policymakers, educators, and the local community is essential to ensure that digital education becomes an inclusive and sustainable tool for social development on Sagar Island.

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