



Modernization in Primary Education: An Ethnographic Study of Communication, Technology, and Media in North 24 Parganas, West Bengal

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ABSTRACT

This study investigates the present issues and impacts of modernization in primary education, focusing on the developed systems of communication, technology, and media in North 24 Parganas, West Bengal. Using ethnographic methods, the research aims to understand how these elements influence educational practices, accessibility, and outcomes in the district's primary schools. The study will explore the benefits and challenges brought about by modernization, including the digital divide, changes in teaching methodologies, and the role of media in shaping educational content and aspirations.

Introduction:

Modernization in education refers to the transformation and adaptation of educational systems to meet contemporary needs and challenges. This process includes the integration of advanced technology, updated curricula, innovative teaching methods, and inclusive policies that ensure quality education for all. Globally, education modernization is driven by the recognition that knowledge and skills are critical for economic growth, social development, and individual well-being. Digital transformation involves the incorporation of information and communication technology (ICT) within the educational framework.

Classrooms are increasingly equipped with digital tools, online learning platforms are being developed, and digital resources are being utilized to enhance the learning experience. This transformation aims to make education more accessible and engaging, providing students with the skills needed for a technology-driven world (Ghavifekr & Rosdy, 2015).

Modern educational curricula emphasize critical thinking, creativity, and problem-solving skills. There is a concerted move away from rote memorization towards more dynamic forms of learning that encourage students to analyze, synthesize, and apply knowledge in practical contexts. This reform aims to prepare students to meet complex real-world challenges effectively (Darling-Hammond, 2006). Modernization policies strive to provide equal educational opportunities for all students, irrespective of their socioeconomic background, gender, or disabilities. Inclusive education ensures that every student has access to the resources and support they need to succeed, fostering a more equitable educational environment (Ainscow, 2005). Continuous training and development programs for educators are essential to keep them abreast of the latest pedagogical strategies and technologies. This trend underscores the importance of equipping teachers with the knowledge and skills necessary to implement modern educational practices effectively (OECD, 2019). Preparing students to thrive in an increasingly globalized world is a key aspect of modern education. This includes fostering intercultural understanding, promoting language skills, and encouraging students to develop a global perspective. Education systems aim to equip students with the competencies required to navigate and succeed in a diverse and interconnected world (Reimers, 2009).

North 24 Parganas is a district in the eastern Indian state of West Bengal. It is one of India's most populous districts, characterized by its diverse socio-economic and cultural landscape. The district's economy is diverse, encompassing agriculture, small-scale industries, and a burgeoning services sector. While some areas are economically prosperous, others face significant challenges, including poverty and underdevelopment (Census of India, 2011). North 24 Parganas boasts a rich cultural heritage, influenced by its Hindu, Muslim, and other communities. The district is known for its vibrant festivals, traditional arts, and crafts, which form an integral part of its social fabric (Chatterjee, 2017). The educational landscape in North 24 Parganas varies widely. Urban areas generally have better access to quality educational facilities compared to rural regions. While the district's literacy rate is relatively high, there are significant disparities in educational attainment among different socio-economic groups (Pratichi Trust, 2014). Infrastructure development in the district is uneven. Urban centers tend to have well-

developed infrastructure, whereas many rural areas suffer from inadequate school buildings, lack of basic amenities, and insufficient teaching resources (Sarva Shiksha Abhiyan, 2016).

Understanding the effects of modernization on different parts of the district can highlight regional disparities in educational access and outcomes. This knowledge can inform targeted interventions aimed at bridging the gap between urban and rural areas. Education is a key driver of socio-economic development. Examining the impact of modernization on primary education can provide insights into how educational improvements contribute to the district's overall development (World Bank, 2018). Given its rich cultural heritage, North 24 Parganas presents a unique opportunity to study how educational modernization can balance the integration of global competencies while preserving local cultural identities. The findings from this study can inform policymakers about the effectiveness of current educational reforms and the need for new policies that address the specific needs of North 24 Parganas. This can lead to more inclusive and equitable educational practices. There is a lack of comprehensive data on the impact of modernization in primary education within the district. This study can fill that gap by providing empirical evidence that can be used by educators, administrators, and researchers. Examining the impact of modernization on primary education in North 24 Parganas is essential for fostering an inclusive, effective, and culturally sensitive educational environment that can contribute to the holistic development of the region (UNESCO, 2015).

Aims & Objectives of the Present Study:

To understand the impact of communication systems, technology, and media on primary education in North 24 Parganas, West Bengal, considering the perspectives of teachers, students, parents, and the broader community along with-

- To investigate the impact of communication systems, technology, and media on primary education.
- To identify the main challenges faced by primary schools in the context of modernization.
- To explore the perceptions of teachers, students, and parents regarding modernization.
- To examine the socio-cultural implications of modernization on the local community.

Methodology:

Ethnographic approach is particularly well-suited for exploring the lived experiences of stakeholders in primary education within North 24 Parganas. It provides a comprehensive, empathetic, and contextually grounded understanding of how modernization impacts education in this diverse and dynamic region. This in-depth knowledge is essential for designing effective educational policies and practices that address the unique needs and aspirations of the community.

This study focuses on rural and urban primary school students, teachers, and parents in North 24 Parganas, aiming to enable a comparative analysis of the educational system and culture of boys and girls. It also considers the educational culture of rural and urban students and examines children's school-specific performance to understand the educational system more comprehensively. Selection of Blocks and Schools: The study randomly selected three blocks in North 24 Parganas: Bongaon Block, Habra-1 Block, and Barasat-1 & 2 Block. Six schools were purposively selected: two from Bongaon (village and town areas), two from Habra (village and town areas), and two from Barasat (village and town areas). During the school surveys conducted in Bongaon, Habra, and Barasat, the sample size consisted of 76 participants, including students, teachers, and parents. This diverse sample provided a comprehensive view of the educational experiences and systems in both rural and urban settings. The schools are called Malikapur F. P. School (MFPS), Ballavpur F. P. School (BFPS), and Salka F. P. School (SFPS), which are located in Barasat - I block, a rural area in Habra, and the Bongaon subdivision. All of the schools in this district are located in rural areas. The urban schools are Barasat Adibasi Primary School (BAPS), which is situated next to Barasat Municipality block, Habra Udbastu Prathamik Siksha Niketan (HUPSN), and Bongaon Model Primary School (BMPS), which is located in the Bongaon Municipality block. A comprehensive description is provided below.

FINDINGS, INTERPRETATION & DISCUSSION:

Identification and Analysis Related to Communication, Technology, and Media

Integration of Technology in Education

Modernization efforts in West Bengal's primary schools have seen significant incorporation of digital technology. This includes the use of computers, smartphone, interactive whiteboards, and other digital devices in classrooms. These tools facilitate interactive learning experiences through multimedia resources, educational apps, and online platforms. The integration of technology aims to make learning more engaging and effective. Teachers use these tools to present complex concepts in more accessible

ways, which can enhance students' understanding and retention. However, the effectiveness of technology integration varies. While some schools have successfully incorporated digital tools, others face challenges due to inadequate infrastructure and training. The reliance on technology also raises concerns about the digital divide, where students from less privileged backgrounds may not have the same access to digital resources.

Impact of Media on Learning

Media, including videos, educational software, and audiovisual resources, plays a crucial role in modern classrooms. Media-based instructional materials engage students visually and auditory, stimulating their senses and improving comprehension. The use of media in education can enhance learning by making lessons more engaging and memorable. Students benefit from the visual and auditory stimulation that media provides, which can help in understanding and retaining information. However, there are also challenges, such as ensuring that media use is pedagogically sound and does not replace fundamental teaching methods like the chalk-and-talk approach. Moreover, excessive reliance on media might distract students if not properly managed.

Administrative Efficiency through Technology

Teachers reported that technology has significantly reduced manual work and streamlined administrative tasks. Digital tools make it easier to manage records, fill out scholarship forms, and keep track of mid-day meals. The administrative efficiency gained through technology allows teachers to focus more on teaching rather than paperwork. Easy access to notices and records improves the overall management of schools. However, there is a need for continuous training and support to ensure that all teachers can effectively use these technologies. Additionally, the disparity in technological adoption between rural and urban schools needs to be addressed.

Communication and Social Change

Effective communication through technology can raise public awareness of educational rights and support decision-making processes. Media can help build common perspectives that lead to social change and improve the quality of education. Communication technologies like email, video conferencing, and social media platforms enable better interaction among teachers, students, and parents. These tools can support collaborative learning and community involvement. However, there are risks of digital exclusion, where certain populations might be left out due to lack of access to technology

or digital literacy skills. Ensuring inclusive communication strategies is essential for equitable education.

Challenges and Limitations

Despite the potential benefits, there are several challenges in integrating technology and media into education. These include inadequate training for teachers, outdated study materials, and limited internet access for students. Teachers need comprehensive and ongoing training to effectively use technology in the classroom. Updating study materials to align with current technological advancements is crucial. Furthermore, ensuring that students have access to the internet and digital devices is necessary to bridge the digital divide. Addressing these challenges requires coordinated efforts from educational authorities, policymakers, and the community.

Socio-Cultural Roles of Schools and Teachers

Teachers play significant roles in their communities beyond the classroom. They participate in community organizations and events, contributing to social and cultural development. Teachers as community leaders can foster social change and community development. Their involvement in local organizations and events helps build stronger community ties and supports the overall educational ecosystem. However, urban schools may see less community involvement compared to rural areas. Encouraging and facilitating teachers' participation in community activities can enhance their impact on society.

Community Involvement and Social Media Use

The use of social media for professional purposes helps in gathering information and communication among teachers, parents, and community members. However, excessive use for personal purposes can distract from academic responsibilities. Social media platforms like WhatsApp are valuable tools for professional communication and information dissemination. They enable teachers to stay informed and connected with the school community. However, managing the balance between professional and personal use of social media is crucial to prevent distractions that could negatively impact academic performance. Educating both teachers and parents about responsible social media use is important for maintaining focus on educational goals.

Personal Stories and Experiences of Stakeholders

1. Enhanced Administrative Efficiency

Teachers' Experiences:

Teachers have reported that the integration of technology has significantly reduced their administrative workload. One teacher from BAFPS mentioned that tasks such as managing student records, filling out scholarship forms, and maintaining mid-day meal records have become much easier. This efficiency allows teachers to focus more on instructional duties rather than administrative ones. The shift to digital tools has streamlined many of the bureaucratic processes that previously consumed a lot of time and effort. This narrative highlights the positive impact of technology in reducing administrative burdens, thereby freeing up time for educators to engage more directly with students.

2. Improved Communication and Decision-Making

Teachers' Experiences:

A teacher from BMPS highlighted how technology has improved communication among stakeholders. Effective communication channels have raised public awareness of educational rights and supported evidence-based decision-making processes. Additionally, the use of specific media forms has been seen to foster common perspectives that drive social change and enhance educational outcomes. The narratives indicate that improved communication facilitated by technology not only aids in better information dissemination but also plays a crucial role in community building and fostering collaborative decision-making. However, there are concerns about communicatory exclusions, particularly among non-literate populations.

3. Interactive and Engaging Learning Experiences

Students' Experiences:

Students have shared that learning through computers and multimedia resources has increased their interest and improved their understanding of subjects. One student from HUPSN mentioned how engaging audiovisual instruction helped him retain information better and made learning more enjoyable. The stories from students emphasize the effectiveness of interactive and engaging learning experiences facilitated by technology. These narratives underscore the potential of multimedia resources to make complex concepts more accessible and enjoyable, thereby enhancing overall learning outcomes.

4. Socio-Cultural Roles of Schools

Teachers' Experiences:

Teachers play a vital role in the socio-cultural fabric of their communities. A teacher from SFPS shared his involvement in local organizations and community activities, which underscores the broader societal role that educators play beyond the classroom. This involvement helps in building stronger community ties and promoting social responsibility among students. The narratives illustrate the multifaceted roles of teachers as educators and community leaders. Their participation in local events and organizations highlights the importance of schools as centers of community engagement and social development.

5. Challenges in Technology Implementation

Teachers' Experiences:

Despite the benefits, teachers have reported several challenges in the implementation of technology. Issues such as inadequate training, outdated study materials, and the digital divide are significant barriers. One teacher from BMPS expressed concerns about the lack of effective professional development opportunities, which hampers their ability to integrate technology into classroom teaching effectively.

Students' Experiences:

Students from BFPS highlighted infrastructure issues, particularly the lack of internet facilities, which limit their ability to fully benefit from ICT-led education. Moreover, the over-reliance on social media by some teachers during class time was noted as a distraction that negatively impacts the learning environment.

These narratives bring to light the ongoing challenges faced in the modernization process. The need for comprehensive training, updated resources, and better infrastructure is critical to realizing the full potential of technology in education. Addressing these issues is essential for ensuring equitable access to quality education.

The personal stories and experiences of teachers, students, and community members in West Bengal's primary schools provide valuable insights into the impact of modernization. While technology and media have brought numerous benefits, including administrative efficiency, improved communication,

and engaging learning experiences, significant challenges remain. By addressing these challenges and continuing to support the integration of technology in education, we can create a more inclusive and effective educational environment that meets the needs of all students.

Modernization and Technology:

Institutional and Administrative Issues

Modernization efforts in West Bengal's primary education focus heavily on integrating digital technology. Computers, smartphone, interactive whiteboards, and other digital devices are becoming more common in classrooms. These tools facilitate interactive learning experiences, allowing students to explore various subjects through multimedia resources, educational apps, and online platforms.

In interviews, a teacher from BAFPS highlighted that modernization has reduced a lot of manual work and made administration easier. Tasks such as accessing notices, managing databases, filling out scholarship forms, and keeping records of the Mid-day Meal Scheme have become more manageable.

Another teacher from BMPS emphasized that effective communication through technology can raise public awareness about educational rights and support decision-making processes. They noted that while technology can foster social change and improve learning outcomes, certain groups may be marginalized if they lack access to these technological resources.

The headmaster of BFPS shared that Information & Communication Technology (ICT) has made teaching more efficient by reducing time spent on instructional tasks and providing easy access to teaching materials. A teacher from BMPS noted that ICT serves as a significant tool for social transformation and enhances the primary education system by reducing reliance on the traditional chalk-and-talk method. They observed that audio-visual tools and internet resources help both teachers and students by making information more accessible and communication more effective.

However, some negative aspects were also reported:

- Teachers claimed that schools are struggling to provide high-quality learning outcomes due to a lack of efficient curricula and educational strategies.
- Limited opportunities for professional development leave teachers lagging behind in educational advancements.

- Despite frequent use of the internet and mobile devices, many teachers are unable to effectively integrate technology into their classrooms.
- The traditional chalk-and-talk method, with minimal use of teaching aids, continues to dominate classroom instruction.

Student Experiences

Students have mixed experiences with modernization. A student from HUPSN reported increased interest and improved learning outcomes through computer-based learning. However, a student from BFPS mentioned the lack of proper infrastructure, particularly the absence of internet facilities.

Students were asked whether ICT-led education should replace the traditional chalk-and-talk method. Most students from different schools felt that while ICT is beneficial, traditional methods still have their place. They appreciated the time-saving aspect of preloaded study materials, which allow for clearer concepts and more efficient use of class time.

Students also reported that audio-visual instruction helped them retain information better. Both teachers and students agreed that technology saves time and physical energy during classes, making it a valuable supplement to traditional teaching methods.

The Socio-Cultural Roles of Schools

Teachers play significant roles in society and culture beyond the classroom. They are responsible for educating people on how to improve their communities and participate in civic life. Teachers contribute to debates on important issues, propose solutions to problems, and prepare children to become responsible citizens.

During the investigation, it was found that only a small number of headmasters were involved in community participation. A teacher from SFPS was also an accountant for the '*Akhil Bharatiya Adivasi Bikash Parishad*' and president of the '*Makaltala Adivashi Netaji Sayombor Gosthi*.' Another teacher from MFPS served as the secretary of a local educational institution for the elderly. Teachers often receive invitations to local cultural events, although this is more common in rural areas than in urban settings.

Community Involvement

Parental involvement in technological education is limited, especially in rural areas where parents often lack the skills to use smartphone or computers. However, teachers use social media professionally to gather information about meetings and notices and communicate with parents and other stakeholders.

While WhatsApp is popular and useful for quick communication, its use for entertainment can distract teachers and negatively affect academic performance. Many teachers agreed that parents need to monitor their children's use of social media and limit their screen time.

Best Practices and Recommendations

- **ICT Training:** Teachers reported that the ICT training they receive is insufficient. Longer-term training with proper hands-on practice should be provided.
- **Updated Study Materials:** Inadequate and outdated study materials contribute to teachers' lack of interest. These materials should be updated promptly according to the syllabus.
- **Student Access to Technology:** Students need more opportunities to use computers and the internet for learning purposes, not just for administrative tasks.
- **Teacher Development:** Improving teachers' awareness and skills is crucial. Easily accessible digital lessons can help teachers enhance their teaching abilities and increase student engagement.

Positive Impacts:

- Improved access to information
- Enhanced learning experiences through digital tools
- Broader educational aspirations

Negative Impacts:

- Digital divide
- Dependency on technology
- Reduced face-to-face interactions
- Cultural dissonance

Socio-Cultural Dynamics:

- Shifts in traditional educational practices

- Changes in teacher-student dynamics
- Community responses to modernization

Modernization in West Bengal's primary schools involves integrating technology and media to create more engaging and effective learning environments. While there are significant benefits, such as improved access to information and enhanced learning experiences, challenges remain, including the digital divide and the need for better teacher training. Balancing traditional methods with modern technology is crucial to meeting the diverse needs of students and ensuring the success of educational reforms.

Interpretation of Findings

The findings from this study align with existing literature on the modernization of primary education through technology and media. Similar to previous research, this study highlights the positive impacts of technology integration, such as improved access to information, enhanced learning experiences, and increased student engagement. However, the study also reveals challenges, including the digital divide, dependency on technology, and reduced face-to-face interactions, which are consistent with findings from other studies.

Implications for Policy and Practice

Based on the findings, several recommendations can be made for policymakers, educators, and community leaders:

- **Enhanced Teacher Training:** Policymakers should invest in longer-term ICT training for teachers, focusing on hands-on practice and skill development to effectively integrate technology into classroom teaching.
- **Updated Curriculum and Resources:** Education authorities should ensure that study materials and curriculum are regularly updated to align with technological advancements, providing students with relevant and up-to-date content.
- **Promotion of Student Access to Technology:** Schools and communities should work together to provide students with greater access to computers, internet facilities, and digital resources for learning purposes.



- **Parental Awareness and Engagement:** Community leaders and educators should collaborate to raise awareness among parents about the positive and negative impacts of technology on education, encouraging responsible use and monitoring of children's screen time.
- **Balanced Approach to Technology Use:** Educators should adopt a balanced approach that combines traditional teaching methods with modern technology, ensuring that technology enhances, rather than replaces, face-to-face interactions and hands-on learning experiences.

Limitations and Future Research

This study acknowledges several limitations:

- **Sample Size:** The study may have a limited sample size, which could affect the generalizability of the findings. Future research could involve larger samples from diverse educational settings.
- **Geographical Scope:** The study focuses on a specific region (North 24 Parganas in West Bengal), limiting its applicability to other regions with different socio-cultural contexts. Future research could explore the impact of technology in primary education across various regions in West Bengal and beyond.
- **Long-term Impact:** The study primarily focuses on short-term impacts of technology integration. Future research could investigate the long-term effects of modernization on student learning outcomes, retention rates, and overall educational quality.
- **Qualitative Insights:** While this study provides valuable qualitative insights, future research could incorporate quantitative methods to further analyze the quantitative impact of technology on student performance and teacher effectiveness.
- **Addressing these limitations and conducting further research will contribute to a more comprehensive understanding of the implications of modernization in primary education and inform evidence-based policies and practices for sustainable educational development.**

Conclusion:

The findings from this study indicate that the modernization efforts in West Bengal's primary schools, particularly in North 24 Parganas, align with existing literature on the integration of technology and media in education. Consistent with other research, the study highlights significant benefits, such as improved access to information, enhanced learning experiences, and increased student engagement through the use of digital tools like computers, smartphone, interactive whiteboards, and multimedia

resources. However, the study also underscores challenges that are echoed in the broader literature. These include the digital divide, where access to technology is uneven, particularly between urban and rural areas; dependency on technology, which can diminish traditional teaching methods; and the potential reduction in face-to-face interactions, which can impact the socio-cultural dynamics of learning environments. Additionally, there is concern about teachers' preparedness and the adequacy of ICT training, which often falls short of equipping them with the necessary skills to effectively implement technology in their teaching practices.

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