

THE INTERSECTION OF DIGITAL LITERACY AND EDUCATIONAL POLICY REFORM: A CRITICAL ANALYSIS OF NEW EDUCATION POLICY (NEP) IMPLEMENTATION IN BHAGALPUR DISTRICT, BIHAR

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Abstract

This study explores the role of digital literacy in the implementation of the New Education Policy (NEP) 2020 in Bhagalpur district, Bihar; a region marked by socio-economic diversity. It investigates how digital literacy acts as both an enabler and a barrier in realizing the objectives of NEP 2020. The research utilizes qualitative and quantitative methods to identify gaps in digital literacy, infrastructural limitations, and the challenges faced by educators, students, and policymakers in integrating technology into education. The findings reveal a significant digital literacy gap among teachers and students, which impedes the effective integration of digital tools. Key barriers include infrastructure challenges, such as power outages and limited access to digital devices, as well as a lack of trained IT personnel. Despite these obstacles, the study identifies opportunities for enhancing educational outcomes through the use of digital resources and promoting collaboration among educators and students. The research concludes that the success of NEP 2020 in Bhagalpur and similar regions depends on equitable access to digital resources. To fully harness the policy's potential, targeted interventions are required to bridge the digital divide. These include training programs, infrastructure improvements, and the creation of a digital-inclusive environment. The study emphasizes the need for a comprehensive approach to digital literacy as essential for the successful implementation of NEP 2020.

Keywords: Digital literacy, New Education Policy (NEP) 2020, Bhagalpur district, Socio-economic diversity, Educational policy reform, Technology integration, Digital divide, Infrastructure challenges, IT personnel shortage, Educational outcomes, Collaboration among educators

1. Introduction

The advent of the digital age has revolutionized educational systems globally, demanding a recalibration of pedagogical approaches, learning environments, and policy frameworks. In India, the New Education Policy (NEP) 2020 represents a comprehensive attempt to align the country's educational landscape with the requirements of a knowledge-driven economy. Digital literacy, as an essential 21st-century skill, lies at the heart of this transformation. However, in regions like Bhagalpur district in Bihar, challenges of infrastructure, socio-economic disparity, and educational inequity pose significant obstacles to policy implementation.

1.1 Research Objectives

- To evaluate the current state of digital literacy in Bhagalpur district.
- To examine how digital literacy influences the implementation of NEP 2020.
- To identify barriers and enablers of policy implementation in a rural Indian context.

2. Literature Review

The literature review stands as a cornerstone of the present study, laying a sturdy foundation upon which to build an understanding of the intricate dynamics surrounding the integration of digital literacy within the framework of education policy implementation, specifically in the context of

Bhagalpur district, Bihar. Through a meticulous exploration of existing scholarly works, research endeavors, and theoretical frameworks, the literature review illuminates the multifaceted landscape of digital literacy and education policy, offering insights into their historical trajectories, theoretical underpinnings, and empirical findings. Within the broader global landscape, the literature elucidates the profound shifts brought forth by the digital revolution, reshaping educational paradigms and necessitating a revaluation of traditional pedagogical approaches. It underscores the imperative for educational systems to adapt to the demands of the digital age, emphasizing the cultivation of digital literacy skills to equip learners with the competencies required for active participation in an increasingly digitized society. Moreover, it sheds light on the evolving nature of education policies worldwide, highlighting the emergence of new paradigms aimed at harnessing digital technologies to enhance teaching and learning outcomes, foster innovation, and promote equitable access to educational opportunities.

Barry M. Kroll, Eugene R. Kintgen, Mike Rose (1988)ⁱ, According to author, the compilation of 28 essays presented in this book is structured into four distinct sections, each offering a unique perspective on literacy encompassing theoretical, historical, educational, and community dimensions. The

editors, in their comprehensive introduction, emphasize the intricate interrelation of all aspects of literacy, aiming to break down artificial boundaries within the field. Additionally, they provide an exhaustive bibliography based on the citations within the essays, enhancing the scholarly value of the compilation. In the final section, the discourse expands beyond the confines of traditional educational settings to explore literacy in broader societal contexts. Here, the focus shifts to the development of literacy among diverse populations, including children and adults, as well as its practical applications in the workplace and everyday life.

Nathalis Wamba (2014), Author explores, the intricate relationship between poverty and academic achievement is undeniable, particularly concerning the literacy skills of low-income students. Through an examination of this connection, the book sheds light on the pivotal roles and responsibilities of various stakeholders, including teachers, school administrators, researchers, and policymakers, in addressing the achievement gap and mitigating the adverse effects of poverty on literacy development. The text delves into the multifaceted dynamics at play, emphasizing the need for creative pedagogies tailored to the unique needs of low-income pupils. It explores school models that have demonstrated success in overcoming the challenges posed by poverty, highlighting the resilience of low-income families committed to fostering their children's academic success. By unpacking these complexities, the book offers valuable insights into effective strategies for closing the achievement gap and promoting equitable educational opportunities. Both schools and home environments play pivotal roles in fostering literacy skill development. While schools are instrumental in imparting reading and writing skills, literacy education extends beyond mere acquisition to encompass social practices crucial for social mobility.

Muchkund Dubey, Susmita Mitra (2020)ⁱⁱ, According to the author, the book aims to revisit the visions of education articulated by notable Indian philosophers and leaders, deconstruct seminal documents on education in India, analyze the influence of people's movements, and evaluate the progress and challenges in implementing educational programs and policies. Through a comprehensive lens, the authors delve into the historical, philosophical, and contemporary dimensions of education, providing critical insights into its role in shaping the Indian society and its trajectory towards progress. One of the remarkable aspects of the book is its engagement with the visions of education articulated by eminent Indian philosophers and leaders.

Krishna Mohan Rao (2019)ⁱⁱⁱ, Author presents a thorough examination of India's adult education landscape, shedding light on the complexities and challenges hindering the nation's progress towards achieving total literacy. Despite the various initiatives launched by both central and state governments since Independence, India continues to grapple with significant gaps in literacy rates. The author underscores the urgency of addressing these shortcomings by offering a nuanced analysis of the policy framework and implementation strategies of adult education programs in India. Through this examination, the book elucidates the divergent perspectives that shape literacy efforts, including tensions between state and user priorities, individual and social dimensions of literacy, and differing conceptions of literacy as education versus literacy as development. By highlighting these contradictions, the author calls upon the Indian literacy community to reconcile disparate viewpoints and tailor approaches that resonate with the country's unique socio-cultural context. A central focus of the book lies in its exploration of key curriculum and pedagogical issues, motivation and mobilization strategies, post-literacy and continuing education arrangements, as well as monitoring and evaluation methods. By delving into these critical aspects, the author provides invaluable insights for policymakers, educators, and practitioners seeking to enhance the effectiveness of adult education initiatives in India.

Manoj Saxena K (2020)^{iv}, Author explores the unveiling of the New Education Policy heralds a transformative vision aimed at positively impacting every citizen of India. Designed with a forward-looking approach, the policy strives to embrace the imperatives of the 21st century while preserving the rich tapestry of tradition and values inherent in Bharat's cultural heritage. Central to this vision is the recognition of the holistic ethos ingrained in India's ancient education system, which prioritized not only the acquisition of knowledge but also the holistic development and self-realization of individuals.

Kavita Roy, Khritish Swargiary (2023)^v, Author offers a comprehensive exploration of the integration of Information and Communication Technology (ICT) in the Indian education system as of 2023. The book provides a detailed analysis of various facets of ICT integration, ranging from infrastructure and curriculum to digital literacy, assessment, and inclusive education. The book begins by tracing the evolution of the Indian education system, contextualizing the need for ICT integration within the framework of existing challenges and opportunities. It meticulously examines the state of ICT infrastructure in schools,

including government initiatives aimed at enhancing accessibility and inclusivity. The authors shed light on the integration of ICT into the national curriculum framework, exploring available tools and resources for teaching and learning. Additionally, they emphasize the importance of teacher training and professional development in leveraging ICT effectively in educational settings. The authors analyze the role of ICT in enhancing digital literacy and address challenges associated with bridging the digital divide.

Laura Fedeli, Lukasz Tomczyk (2022)^{vi}, Author offers valuable insights into the measurement of digital competence among future generations of educators and addresses the challenges arising from the convergence of analogue and digital media. Through research conducted in various countries, the book provides answers to key questions regarding the effective measurement of media pedagogy competencies and the level of digital literacy among pre-service teachers. The individual chapters of the book are informed by a systematic review of research findings from the past two decades, offering a comprehensive overview of trends related to changes in measurement techniques and levels of digital competence. By synthesizing this research, the book illuminates the evolving landscape of digital literacy and pedagogy, providing readers with a nuanced understanding of the factors shaping the development of digital competencies among educators.

Prasanna S (2023)^{vii}, Author offers the readers to an immersive journey into a pivotal moment in India's legal history, providing a profound exploration of the nation's democratic evolution. With meticulous research and compelling storytelling, the book unfolds the gripping narrative of a landmark case that left an indelible mark on the Indian Constitution. At the heart of the book lies an exploration of the transformative impact of a single legal dispute, which challenged the very bedrock of India's constitutional framework. Through vivid descriptions and intricate detail, readers are transported into the corridors of power, where legal luminaries engaged in passionate debates and intricate legal arguments that echoed in the hallowed halls of justice.

Khritish Swargiary (2023)^{viii}, Author explores the transformative impact of online education within the dynamic educational landscape of India. This book embarks on a journey to unravel the multifaceted dimensions of online learning, shedding light on its emergence, advantages, and challenges in one of the world's most populous and diverse nations. The genesis of this book lies in the author's keen observation of the rapidly evolving educational climate in India, characterized by the proliferation

of online learning platforms and the increasing adoption of digital courses by students across the country. Motivated by the need to document and analyze this paradigm shift, the author sets out to provide readers with a comprehensive account of the online education revolution unfolding in India.

Alexander V. Morozov, Anna A. Arinushkina, Irena V. Robert (2023)^{ix}, Author describes the multifaceted landscape of contemporary education, with a particular focus on the transformative impact of digitalization, innovative methodologies, and effective management strategies. Through a collection of insightful chapters drawn from applied research and case studies, this book offers invaluable insights into the evolving nature of education in the digital age. At its core, the book delves into the intersection of digitalization and pedagogy, highlighting the ways in which technology is reshaping educational standards and practices. By adopting interdisciplinary approaches rooted in computer science and engineering education, the book examines the challenges and opportunities presented by the digital revolution in education.

3. Research Methodology

Research methodology is the backbone of any scholarly investigation, providing a systematic framework for conducting research, gathering data, analyzing findings, and drawing conclusions. In the context of studying the role of digital literacy in implementing new education policies, research methodology assumes paramount importance.

In the context of the present study, which focuses on the integration of digital literacy in education policy within Bhagalpur district, Bihar, research methodology assumes even greater significance. The complexity of the topic, compounded by the unique socio-economic and educational context of the region, necessitates a rigorous and contextually sensitive approach to research. Bhagalpur district presents distinct challenges and opportunities in terms of digital literacy implementation, influenced by factors such as infrastructure, access to technology, socio-cultural dynamics, and policy frameworks.

Geography and Climate

Bihar is located in eastern India between 83°19'50"E to 88°17'40"E and 24°20'10"N to 27°31'15"N, covering 94,163 sq. km. The Ganga River divides the state and contributes to its fertile plains. The state experiences a monsoonal climate with around 52.5 rainy days annually.

Demographics

As per the 2011 Census, Bihar is India's third most populous state with over 104 million people and a density of 1,106 persons per sq. km. About 89% of

the population resides in rural areas. The average literacy rate is 61.80%, with significant inter-district variation. The sex ratio is 918 females per 1000 males. Youth under 25 make up 58% of the population.

Administration

Bihar is divided into 9 divisions and 38 districts, with 101 sub-divisions and 534 CD Blocks. There are 8,406 Panchayats and 45,103 revenue villages. The state also has 199 towns and 853 police stations, showcasing a complex administrative and governance structure.

Cultural and Religious Significance

Bihar is deeply rooted in Indian mythology and religion—birthplace of Sita, Lord Mahavira, and Guru Gobind Singh Ji. It is also home to Bodhi Gaya, the site of Buddha's enlightenment.

Literacy in Bihar

As per the 2011 Census, Bihar's literacy rate rose to 61.80% from 47% in 2001. Male literacy reached 71.20%, while female literacy improved to 51.50%, highlighting persistent gender gaps. Patna leads with a 70.68% literacy rate, followed by Aurangabad at 70.32%. Districts like Araria (53.53%) and Saharsa (53.20%) lag behind due to poverty, infrastructure issues, and socio-cultural challenges. NGOs, tech-based learning, and teacher training are playing vital roles in bridging these gaps and improving education quality.

History of Bhagalpur

Bhagalpur has historical ties to ancient kingdoms like Anga and Magadh. Its capital, Champā, was once a major cultural and trade hub. The area thrived under empires such as the Mauryas, Guptas, and Palas, with institutions like Vikramshila University contributing to its intellectual legacy. The district later saw administrative changes under the Mughals and British.

Tools to be used in collection of Data

Sampling

Sampling serves as a critical component of research methodology, involving the process of selecting a subset of individuals or elements from a larger population for study purposes. It is instrumental in ensuring that the findings drawn from the research are representative and generalizable to the entire population under investigation. In the context of present study sampling entails selecting schools, teachers, and students from Bhagalpur district to participate in the study.

Collection of Primary data

Collection of primary data in research refers to the process of gathering firsthand information directly from the source or participants relevant to the

research topic. In the context of the present study primary data collection involves collecting data directly from teachers, students, and other stakeholders in Bhagalpur district. This may include conducting surveys, interviews, focus groups, observations, or administering questionnaires to gather information on digital literacy levels, educational policies, challenges faced, and opportunities available within the district.

Collection of Secondary data

The collection of secondary data involves gathering information and existing data from sources that have already been collected and analyzed by others for purposes other than the current research study. In the context of the present study secondary data collection is essential to complement primary data and provide a broader understanding of digital literacy implementation and education policy in the district. The need for collecting secondary data arises for several reasons. Firstly, secondary data offer valuable insights and context that can support and enrich the findings obtained from primary data collection methods such as interviews, surveys, and observations. By examining existing literature, reports, and documents related to digital literacy and education policy in Bhagalpur district, researchers can gain a comprehensive overview of the historical background, policy frameworks, and previous research findings relevant to the study. Additionally, secondary data allow researchers to identify gaps, trends, and patterns in the existing literature, which can inform the formulation of research questions, hypotheses, and data analysis strategies.

Data Analysis

Data analysis is a crucial step in research, involving the organization, examination, and interpretation of collected data to draw meaningful conclusions. It begins with data cleaning and preparation to ensure accuracy. Descriptive analysis identifies basic patterns and trends, while inferential analysis uses statistical tools (e.g., regression, correlation, hypothesis testing) to generalize findings. Qualitative data from interviews and observations are analyzed through coding and thematic analysis to capture deeper insights. By combining both quantitative and qualitative methods, the study provides a well-rounded understanding of digital literacy implementation and its impact in Bhagalpur.

4. Data Interpretation and Analysis

Data interpretation and analysis are essential to this study, providing a systematic approach to evaluating the impact of digital literacy on the implementation of the National Education Policy (NEP) in Bhagalpur district. By examining data gathered from surveys, interviews, and existing literature, the research identifies key challenges and potential

opportunities in integrating digital tools into education. Using both qualitative and quantitative methods, the study assesses the digital literacy levels of students, teachers, and administrators. This baseline helps measure current capabilities and track future progress. The analysis reveals common barriers such as inadequate infrastructure, limited access to digital devices, and resistance to change—all of which hinder the effective use of technology in education.

Alongside these challenges, the study also identifies opportunities for enhancing teaching and learning through digital tools, such as innovative teaching methods and collaborative practices. It evaluates the effectiveness of current digital literacy policies and suggests necessary improvements.

Ultimately, this analysis helps generate practical, evidence-based recommendations for educators, policymakers, and stakeholders. It aims to bridge the digital divide and foster a more inclusive and technologically enriched educational environment. The findings contribute to informed decision-making, supporting the broader goal of transforming education in Bhagalpur and similar under-resourced regions.

5. Conclusions

The digital age has significantly transformed various sectors, particularly education, highlighting the critical role of digital literacy in implementing educational policies. This Ph.D. thesis focused on the impact of digital literacy on the implementation of the New Education Policy (NEP) in Bhagalpur district, Bihar. The study found a considerable gap in digital literacy among teachers and students, emphasizing the need for targeted interventions such as comprehensive training programs and better access to digital resources. Key challenges include infrastructure limitations, power outages, a shortage of IT personnel, and concerns over data security, all of which hinder effective integration of digital literacy into education. However, opportunities for growth exist, including the use of online resources for personalized learning and fostering creativity and critical thinking among students. Improved digital literacy is crucial for successfully implementing the NEP, as it facilitates the integration of technology into education and empowers students to take charge of their learning. The study's findings suggest that increasing digital literacy can bridge equity gaps, enhance educational outcomes, and align with NEP objectives. It also highlights the need for greater awareness of the NEP's digital requirements, as well as the importance of promoting digital learning over traditional methods. Recommendations include investing in infrastructure, teacher training, and

equitable access to technology, along with advocating for policy reforms to support digital literacy initiatives. Public-private partnerships, community engagement, and tailored curricula are also key to addressing the digital divide and ensuring long-term sustainability.

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