

Digital Transformation in School Administration: Challenges in Implementing NEP 2020 Guidelines

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ABSTRACT

The purpose of this study is to explore the digital transformation in the school administration area and the challenges of implementing NEP 2020 guidelines, which have been adopted in the Delhi school administration. The research is qualitative in nature. Samples are selected randomly from Delhi government schools. This research employs the structured interview and questionnaire (open-ended) for the experiences of school administrators, principals, teachers, and non-teaching staff. The findings show that the study contributes to a deeper understanding of digital technologies' role in transforming school administration. The results indicate that school principals, educators, and administrators possess a basic understanding of NEP 2020 policy guidelines. They utilize digital tools in their administrative work, leveraging the availability of digital infrastructure, despite facing challenges in transforming school administration digitally. In this study, the school principals, educators, and administrators use technology within the educational system to achieve academic objectives. Here, they have thoroughly discussed the digital transformation in school administration and the challenges that arise when implementing the guidelines of NEP 2020.

Keywords: - Digital Transformation, National Education Policy (NEP) 2020, School Administration,

INTRODUCTION

Education serves as a powerful instrument that can guide individuals toward a constructive trajectory in their lives. It is a process that allows us to integrate education into our personal or professional lives. We live in a digital era where our day-to-day activities depend on various digital devices and tools. In the age of digitalization, education has changed significantly. Schools are also transforming their management system to provide quality education to future learners. Now, schools are primarily using management information systems (MIS) to efficiently manage significant levels of information, which integrates information under one roof to streamline and improve the organization of administrative work.

Digital transformation in school administration incorporates digital technologies and data-driven techniques to optimise, modernise, and improve diverse administrative operations (such as maintaining school records, students' and teachers' attendance, and updating academic and non-academic work) within educational institutions. This transition aims to enhance efficiency, communication, and decision-making in school administration. "Digital transformation is a physical and philosophical change designed to meet the ever-growing demands of your students, faculty, and campus to create a learning environment where everything connects. This is an ecosystem that combines technology, services, and security to bridge the digital gap to create collaborative, interactive, and personalized learning experiences" (Rao, 2021, p. 106).

School administration refers to managing and supervising the day-to-day operations of a school and educational institution. It ensures effective teaching, learning, and overall functioning in the school environment. School principals or administrators (qualified authorities) are in charge and responsible for managing all school functions. They prepare the school budget to complete administrative duties smoothly. Administrative professionals carry out different administrative tasks, such as leadership, planning, resource management, staff supervision, and policy implementation, to achieve educational goals.

Educational administration is defined as the process of coordinating the suitable people and material resources to achieve the objectives of an educational institution's curriculum effectively. The phrase "Administration" does not denote a singular activity or action. It serves as a comprehensive framework that includes many processes such as

planning, organising, directing, coordinating, managing, and assessing performance. A similar dilemma arises in the domain of educational administration. The notion of educational administration pertains to an educational organization that has specific objectives or goals to achieve (Gaddeya & Kumara Swamy, 2020, p. 141).

The National Education Policy (NEP) 2020 is a major reform in the Indian's education system, introduced after 34 years. It aims to change how education is viewed, organized and delivered in the country. NEP 2020 document mentioned that, "India is a global leader in information and communication technology and in other cutting-edge domains, such as space. The Digital India Campaign is helping to transform the entire nation into a digitally empowered society and knowledge economy. While education will play a critical role in this transformation, technology itself will play an important role in the improvement of educational processes and outcomes; thus, the relationship between technology and education at all levels is bi-directional" (NEP, 2020, Page-26, para 23.1).

"An autonomous body, the National Educational Technology Forum (NETF), will be created to provide a platform for the free exchange of ideas on the use of technology to enhance learning, assessment, planning, administration, and so on, both for school and higher education" (NEP, 2020, Page-56, para 23.3) and "The thrust of technological interventions will be for the purposes of improving teaching- learning and evaluation processes, supporting teacher preparation and professional development, enhancing educational access, and streamlining educational planning, management, and administration including processes related to admissions, attendance, assessments, etc" (NEP, 2020, Page- 57, para 23.5). NEP 2020 emphasises the capacity of educators and system leaders, from schools to educational administration, for effective management change, as leaders are crucial in initiating and sustaining systemic transformations. The role of school leadership is crucial for achieving efficient and results-oriented benefits in school complexes, as it facilitates tangible changes in the teaching and learning process through motivation, inspiration, responsiveness, and dedication to staff (Rather, 2024).

REVIEW LITERATURE

In "National Education Policy 2020, India: A planned change management requisite for higher education institutions", the study explored that India boasts the richest educational heritage, having transitioned from ancient education to modern education. The author attempted to establish a connection between the implementation of the NEP 2020 policy and the traditional education management approach commonly used in educational institutions. This paper is qualitative in nature and utilised a standard database from the public domain and a literature survey of the NEP 2020 document. In the study, the author explained the role of higher education in India's research, innovation, and development systems; the higher education governing bodies of India; and the higher education system for women and people with disabilities.

The study also explained NEP 2020 new initiatives, preparedness for implementation of policy in the educational system, a change management approach in higher education, and challenges in the implementation of NEP 2020, like strengthening infrastructure, ICT access in schools and colleges, teaching quality, accountability, financial plans, and geographical challenges (Betsurmamath & Chidambaram, 2024). The implementation of the National Education Policy 2020: challenges and opportunities in transforming India's education landscape with key highlights of the document, such as holistic and multidisciplinary education, flexibility and choices of subjects from different streams, multilingualism to promote diversity, assessment reforms, teacher training and professional development, technology integration, higher education reforms, inclusive education, and global engagement to support anatomy, academic flexibility, and research-oriented learning.

The author elucidated the significant challenges associated with the allocation of funds and resources, the absence of training sessions, and the curricular structure during the implementation of the multidisciplinary method. This study discussed some case studies for best practices, such as Karnataka's multilingual education initiative until grade 5. The state of Rajasthan is spending money on teacher training sessions, Tamil Nadu is integrating technology in education for digital accessibility, Maharashtra is implementing inclusive education practices, Kerala is implementing competency-based assessment practices, among many other examples (Priyanka, 2024). The "Role of School Leadership in the Context of the National Education Policy (NEP) 2020" study aimed to examine the nature, character, and content of NEP 2020, as well as the role and performance of school leaders in teaching and learning environments. The study employed a comprehensive literature survey methodology to explore NEP 2020 and the concept of school leadership.

The author also delved into the features of NEP 2020 and conducted a thorough assessment and evaluation of the document. The author examined the concept of "TEACH," which encompasses transparency, effectiveness, and accountability, in order to assess the role and performance of school leaders. The author employed various methods to assess teacher effectiveness, including the value-added model, classroom observation, analysis of classroom artefacts, and detailed student evaluation. The assessment of the NEP 2020 document also reviewed the school leadership perspective, which discusses effective governance, continuous professional development, career management, and progress to evolve or follow a realistic approach (Rather, 2024). "Digital Transformation of HEIs in India:

Opportunities, Challenges, and Key Strategies for Success”, the author concentrated on the opportunities and benefits of digital transformation in terms of access and equity in education, centralised platforms for maintaining student data, ICT-enabled classrooms, flipped classrooms, and blended learning. The author also elaborates on the challenges of digital transformation in India, highlighting the concept of the digital divide bridge, data privacy and security, cybersecurity threats, the need for faculty with digital skills, and cost sustainability. The author also explained some critical strategies for the success of NEP 2020 implementations: strong leadership; proper investment in infrastructure and technology; training and development programs for faculties; and collaboration and partnership in the development of digital learning platforms.

The study also explains the most crucial success strategies, which include research and development, adaptive learning platforms, diverse learning styles, and the exploration of emerging technologies for immersive learning experiences (Tripathy, 2024). A study titled "Digital Education in India with reference to New Education Policy (NEP) 2020" was conducted to gain an understanding of the awareness and research effects related to digital education in India. The key principles guided the application of innovation for teaching and learning to reduce the language barriers and provide access to quality-based education. NEP 2020 emphasizes the creation of virtual labs and the availability of course materials in different languages. Experts in educational innovations, organisation, and e-administration form a dedicated unit for online learning and assessment, aiming to enhance the quality of education. The crucial NEP 2020 management areas for digitalizing the education system, including primary education, underscore the importance of innovation.

These areas include bridging linguistic disparities, developing digital resources, integrating coding into the school curriculum, advancing inclusive education, and enhancing teacher training through online platforms. The National Research Foundation (NRF) and the National Educational Technology Forum (NETF), which serve as a forum for the exchange of ideas for education system improvement, focus on encouraging multidisciplinary research and development in professional and higher education areas. The author discussed adapting AI, advocating for the recognition of emerging advances and their effects on education while emphasizing data privacy issues and the necessity of proactive measures. The policy also concentrates on other significant areas such as achieving a 100% gross enrolment ratio, developing curriculum content and pedagogy, integrating technology into the teaching-learning process, establishing PARAKH for assessment, using the mother tongue as the primary language of instruction, and providing teacher training (Nageswari, 2022).

In a study on the digital transformation in education, the author delved into the impact of digital transformation on the basic education of young students during the COVID-19 pandemic. The author has discussed several significant challenges in technology use, including students' inability to purchase smartphones or computers for their studies, their lack of guidance when using technology, and their need for an ideal technological system. The author also discussed a culture of digital transformation, digital infrastructure, online teaching platforms and tools, and addressed the digital divide and online assessment and examination (Manikya Rao, 2021). A study titled "Role of Teachers towards Administrative Aspects at Secondary Level with Reference to NEP 2020" aimed to study the role of teachers in administration at the secondary level in the school.

The author explained that the draft of the National Education Policy focused on enhancing standards in school education and highlighted the crucial role of secondary-level teachers in school administration in resolving related issues. The authors conducted a study on the perceptions of teachers regarding administration, planning, and teaching, taking into account various socio-economic factors such as gender, teacher designation, age, locality, school management, general and professional qualifications, and teaching experience. The study employed the stratified random sampling technique, with a sample size of 300 teachers, including 50 principals and 250 assistant teachers.

The paper's results and findings revealed a high level of positive perception towards administration, irrespective of gender, age, and professional qualification area, with no difference in opinions towards administration work at the secondary level. There is a significant difference in relation to locality, personal qualification, and teaching experience. The author concluded that NEP 2020 has the potential to transform the school education administration system, leading to an improved overall education system and society (Gaddeya & Kumara Swamy, 2020).

Need for the study

The increasing use of digital tools in educational administration has garnered significant attention in recent years, particularly in light of evolving educational policies. The researchers reviewed various studies and articles on topics related to digital transformation in educational administration in India. These studies covered areas such as the implications of the National Education Policy (NEP) 2020, the role of school leadership, the contributions of school teachers, and management practices in higher education. However, the researchers identified a significant gap in the literature. While extensive research has been conducted on digital adoption in Indian education, only one study was found focusing specifically on digitization in school administration. This existing study provided limited insights and failed to comprehensively address the challenges and opportunities associated with implementing digital tools in school administration, particularly in the context of NEP 2020 guidelines. Given this gap, the present study seeks to explore

the digital transformation of school administration, with a particular focus on understanding the challenges of implementing NEP 2020 guidelines. It aims to identify the digital tools and technologies being adopted in modern school administrative functions, examine the barriers to their implementation how NEP 2020 guidelines influence digital adoption in schools.

Objectives of the study

1. To assess the readiness and infrastructure availability of schools for adopting digital administrative system in line with the National Education Policy (NEP) 2020.
2. To identify key challenges faced by different stakeholders (Principal, Teachers and Non- Teaching Staff) of the school in integrating digital tools and technologies for effective implementation of the National Education Policy (NEP) 2020 guidelines.

METHODOLOGY

The present study employs a qualitative approach, relying on in-depth interviews and an open-ended questionnaire for data collection. A government school, selected randomly, was chosen for this study, which the Directorate of Education, Delhi, India runs.

Population

The population of the study consist school Principals, Teachers and Non-Teaching staff of South Delhi Government School, Delhi, India.

Sample

The researchers used random sampling technique in the present study. The sample size is 35 (Principal-1, Teachers-30 and Non-Teaching staff-4).

Tools for the study

The researchers conducted a structured interview with the school principal to assess the school's readiness and availability of digital infrastructure. The researchers developed the questionnaire (open-ended questionnaire) to identify key challenges faced by different stakeholders (Principal, 30 Teachers, and 4 Non-Teaching Staff) of the school in integrating digital tools and technologies for effective implementation of the NEP 2020.

RESULTS & DISCUSSION

1. To assess the readiness and infrastructure availability of schools for adopting digital administrative system in line with the National Education Policy (NEP) 2020.

The researcher conducted a face-to-face interview with the school principal on 25 October 2024, and all responses were recorded in audio form and converted into text form. The principal's responses to the interview session are mentioned below in two different themes and analyzed qualitatively using thematic analysis.

Basic Understanding of NEP 2020 policy

The researcher found that, through the interview with the school principal, she has a basic understanding of the NEP 2020 policy. She said, "I know the focused areas of NEP 2020; it is about practical knowledge, skill-based education, and vocational education for the students' development". She also understands that NEP 2020 talks about the use of technology in educational activities, management, planning, and administration.

Readiness and Digital Infrastructure Availability in the School

The school principal stated that they use digital technology in various functions and areas of the education system. For digital readiness, school teachers and non-teaching staff use existing educational software or applications in the teaching-learning process; for administration work, the management information system (MIS) portal is used for handling teachers' and students' data at a massive level, which is mandatory to use and instructed by the Directorate of Education, Delhi, India. According to the principal, school staff have the potential to utilize MIS effectively. School staff enter the data, such as student details, marks, attendance records, and teacher records, into the MIS portal. For school infrastructure availability, the school has 2 IT professionals as human resources to support digital management systems. The school is equipped with MTNL internet connections, which are average in strength. There is no internet connection at the school's location.

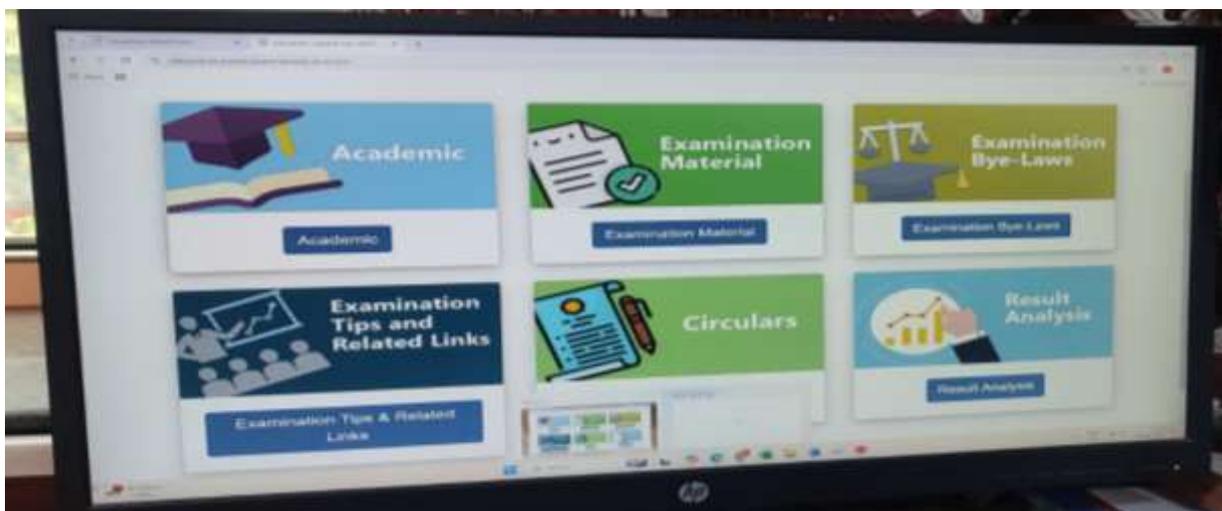
The school utilizes various types of hardware and software, including K-YAN software, to support the teaching-learning process. The K-YAN is digital classroom technology that enhances learning outcomes and improves the quality of education. Schools are increasingly utilizing pre-existing software, like Delhi's NIC payroll system. NIC enables DDOs of the Delhi Government to generate various bills for salaries, while GeM (Government e-Marketplace) facilitates the purchase of essential educational items for schools. For professional career development in digital

technology, school teaching staff use the DIKSHA platform to create new content and courses to enhance their learning experience. The Delhi government provides TABLETS to school principals and teachers to ensure equal access to teaching and administrative tasks. Mostly, teachers can complete their work on time with the help of TABLETS. The school has a computer lab where students are introduced to various applications for learning development, as per DOE instructions. The school has established an internal teacher development coordinator, whose role includes motivating staff, guiding them in learning new concepts, and utilizing various applications in the teaching-learning process. The school principal rated their digital literacy skills as average.



(Source: - Shared by School)

Photo-1: MIS Software use in School



(Source: - Shared by School)

Photo-2: MIS Software use in School

2. To identify key challenges faced by different stakeholders (Principal, Teachers and Non- Teaching Staff) of the school in integrating digital tools and technologies for effective implementation of the National Education Policy (NEP) 2020 guidelines.

The researchers developed a self-made questionnaire for school principals, teachers, and non-teaching staff to identify key challenges different school stakeholders face in integrating digital tools and technologies for effective implementation of the NEP 2020 guidelines. The collected responses are related to the difficulties faced by different stakeholders in using digital tools and technologies. The first 12 questions pertain to gathering demographic information. The researcher examined the following demographic questions: age, gender, designation, employment status, qualification, teaching experience, and language. The data was collected from Trained Graduate Teachers (TGT) and Post Graduate Teachers (PGT) from different disciplines in the school. The researchers distributed the questionnaire to 30 teachers using a hard copy and a Google Forms link. 22 teachers filled out the questionnaire using a hard copy. In comparison, seven teachers filled out the Google form. We received a total of responses from 29 out of 30 participants. 4 questionnaires were distributed to non-teaching staff. The stakeholders' responses were collected from the self-made questionnaire, analysed qualitatively, and divided into different the

Basic Understanding of NEP 2020.

The school principal, teaching, and non-teaching staff are familiar with NEP 2020, possessing a basic understanding of it. They know that NEP 2020 aims to improve the education system and address access, equity, and quality education. They gained detailed knowledge about the policy through various sources, including newspapers, magazines, Google, seminars, and other online resources. They also recognize the importance of key changes, including the implementation of the 5+3+3+4 formula, the promotion of mother tongue or local language as a medium of education until at least grade 5, the promotion of skill-based education and vocational education, the promotion of holistic development, and the emphasis on flexibility and inclusivity in education. Teaching and non-teaching staff are also aware of the digital transformation in school administration and various activities. The results show that the school uses different software for administrative and teaching tasks, as instructed by the DOE.

Availability and use of Digital Tools

The school principal, teaching, and non-teaching staff report that the availability of digital tools and resources in the IT infrastructure is average. They have computers, internet connections, and smartboards. They utilize Management Information System (MIS) software for maintaining student and teacher data, NIC software for salary management, GeM software for item procurement, and K-YAN software for classroom teaching, all of which are essential for improving educational and administrative activities in the school environment. The authority also handles meeting-related K-YAN and TABLETS use in classrooms. They received tablets from the DOE in Delhi, India. They utilize Smartboards, TABLETS, YouTube videos, Overhead projectors, animated videos, PPTs, and the KAHOOT application to facilitate game-based learning and fun-based quizzes in the classroom. However, according to the responses of the school principal and teaching and non-teaching staff, they have high student enrolment, which is causing a shortage of digital tools and resources. They recommended that proper K-YAN classes be included in the regular class schedule.

Challenges related to Digital Transformation in school

1. Slow Internet Connection

The school is grappling with numerous challenges across various domains. Schoolwork is dependent on an internet connection for daily educational or administrative activities. The primary problem is the slow internet connection caused by the absence of optical fibre line connections in schools. The school is currently using a weak MTNL connection.

2. Lack of Digital Literacy

Some senior teaching staff require enhanced digital literacy, as they perceive a disconnect between teaching and the effective use of digital tools. The absence of staff training poses a significant challenge for both administration and education in utilizing digital tools in schools. They address various technical issues and the lack of technical support in school tasks.

3. Lack of Resources

The school needs more digital resources due to its high student-teacher ratio. The school has a student population of approximately 3000. Due to the high student numbers, the school cannot provide or adapt digital-based classes using smartboards or K-YAN on a regular basis. Some existing digital tools, smartboards, and computers need to be updated. Resources for data backup are not readily available. The most significant challenge is that students require equal access to digital learning tools, including mobile phones, internet facilities, and affordable digital devices, among other necessities.

4. Difficulty in Software Handling

The school principal, teaching, and non-teaching staff encounter difficulties in the digital assessment area, particularly when entering their marks into the MIS system. They perceive this process as complex, with some senior teachers finding it impossible. Teachers face technical issues, a lack of security and privacy, inadequate time management, and skill gaps.

5. Impact on Workload

The school principal, teaching, and non-teaching staff shared that the use of digital tools impacts the workload in positive and negative ways. Some participants feel it reduces the workload, and some feel it increases it. A few staff members perceive it as helpful in enhancing productivity and communication in the workplace while also offering flexibility.

6. Official training on digital tools

The school principal, teaching, and non-teaching staff shared responses on the digital tools training provided by government authorities. They typically receive this training one or two times a year. They were trained to integrate digital tools with lesson plans, develop digital assessments, and create online resources for teaching and learning purposes. The DOE instructed them on how to use K-YAN and TABLETS effectively. They are involved in current professional development opportunities for digital tools on the DIKSHA platform.

CONCLUSION

In this study, the researchers understand the importance of education and the parallel essential aspects of the education system. Educational administration and the use of technology operate within the system to achieve academic objectives. The researchers have thoroughly discussed the digital transformation in school administration and the challenges that arise when implementing the guidelines of NEP 2020. The researcher conducted this study in a South Delhi government school, Delhi, India, which excels in administrative tasks and has received numerous accolades. The school has a good understanding of NEP 2020. The school has a basic IT infrastructure that includes human and physical resources. Schools perform educational and administrative activities using digital tools and technologies to work efficiently and effectively. The school principal, teachers and non-teaching staff have identified several significant challenges, including a slow internet connection, a lack of digital literacy, limited availability and utilization of digital resources, difficulty managing software, and the impact on workload and official training. The school uses various software for its daily school activities. The school staff maintains and updates the MIS portal, one of the most important and regularly used software programmes. They also use other software, including NIC, GeM, and K-YAN. Overall, school staff members know digital tools and technologies in teaching and administrative work, but some perceive a disconnect between education and using various tools. Integrating digital resources in educational institutions is challenging for senior staff members due to a lack of digital literacy. Staff members should have a strong internet connection, access to more digital resources, and receive official training on using digital tools to achieve educational objectives in line with the implementation of NEP 2020 guidelines.

Educational Implication

The school principal, teaching, and non-teaching staff rate their proficiency with digital tools and technologies at an average level. They should receive additional training on interactive tools/software or LMS to enhance their skills in educational and administrative work. The school authorities should also focus on a strong internet connection and improve the network area for smooth functioning. The government should support schools in expanding their digital resources to enhance teaching and learning environments. Additionally, software should be user-friendly and accessible for administrative tasks within schools. The school principal and teachers suggested that all students should receive TABLETS from the government to ensure equal digital access and align digital integration with NEP 2020 guidelines.

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