

Integration of technology in Urdu medium institutions through the outlook of National Education Policy (NEP) 2020

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Abstract; Technology has become an inseparable part of our daily lives and its influence on education is highly appreciated as it is transformative in nature. Technology is increasingly seen as an important device in enhancing learning experience, promotes engagement and prepares students for a digital future. It also makes education more accessible and adaptable to individual needs and fosters critical thinking, collaboration and commercial skills. It empowers teachers to create dynamic and interactive learning environment, supports diverse learning needs and prepares students for a future workforce driven by technology. The 21st century is frequently characterized as an epoch dominated by technological advancements. This phenomenon is perceived as a fundamental catalyst for economic expansion. An economy that suffers from inadequate technological infrastructure cannot realistically assert growth within the contemporary context. The ramifications of technology are discernible across virtually all domains. One such domain is the sphere of education. In this paper, we have made a humble attempt to show how technology plays a pivotal role in revolutionizing learning and the role of NEP 2020 under the aegis of current dispensation to bring a profound transformation in the lives of millions of students churned out from Urdu medium institutions. The use of word 'Technology' in this paper means the Information and Communication Technologies and its techniques.

Keywords: Education, Technology, NEP 2020, Digitalization

Introduction

The implementation of the National Education Policy (NEP) 2020 epitomizes a progressive milestone in the educational framework of the nation, occurring after a duration of 34 years. It acknowledges the imperative for the integration of technology within the educational sphere and simultaneously identifies its essential role in facilitating comprehensive development. Among the various initiatives it encompasses, a crucial element of this policy is its dedication

to the advancement of regional languages through the creation of electronic courses and the establishment of virtual laboratories (Premlata Vikal, 2021).

Recognizing the importance of technological integration in contemporary society, a significant objective of the NEP 2020 is the assimilation of technology with the clearly defined aim of attaining universal literacy. This meticulously crafted policy acknowledges the substantial influence of technology on societal advancement and emphasizes its capacity to elevate the standards of education. The NEP 2020 advocates for the adoption of technologies such as three-dimensional modeling, simulation, robotics, and artificial intelligence while also aspiring to promote blended learning methodologies that integrate online instruction with practical experiential learning. Furthermore, it envisions the expansion of existing digital learning platforms to ensure widespread access to high-quality educational resources.

It is indisputable that human civilization has embraced technology to enhance the convenience of daily life. Contemporary state-of-the-art technology has significantly benefited humanity. Recognizing its vast potential, the NEP 2020 also aims to incorporate technology into the educational domain, as it is posited to assist students in autonomous learning, facilitate engagement with peers, encourage continuous improvement of knowledge, and stimulate creative thinking (Sonali Roy Chowdhury Ghosh, 2023)

What ails Urdu medium institutions?

Our policy makers have provided opportunity to various languages, national and regional to thrive. The government as well as private players have promoted institutions of English medium education wherein Urdu medium institutions declined over a period of time. Rather the education policy promotes regional languages; however Urdu medium institutions suffered due to various reasons. As Indian Muslims represent the lowest stratum of socio-economic hierarchy, they have lowest enrolment rates than any other group at all levels of schools and higher education- lower than SCs and STs. Urdu medium schools faces several challenges, including limited educational resources in Urdu, a shortage of qualified teachers and difficulties in accessing quality learning materials, and online resources. The lack of adoption of digitalization is one of the most pressing needs which Urdu medium institutions face. They lack the infrastructure and resources to effectively utilize technology for teaching and online learning.

Urdu as a language is restricted with only the Muslim community which was once popular among other communities of all religious affiliations. Also Urdu medium schools and institutions have become area prone and located in areas where Muslims live in majority. The dominance of English language and job prospects shifted even the Muslim community to send their wards to English medium institutions. The affordable section of the Muslim community shifted to the English medium institutions and economically weak sought education in Urdu medium institutions or Madrasas. These institutions are beset with myriads of problems, including digital divide, which means unequal access to technology and digital literacy skills. This disparity is manifest in several ways, including access to computers, the internet, and digital learning resources. In a nutshell, Urdu medium institutions faces problems such as: limited access, digital literacy gap, language barriers, inadequate training, unequal access to resources etc.

The Status of Urdu Medium Education in India

Urdu medium schools in India constitute a vital component of the nation's educational landscape, reflecting a commitment to linguistic diversity and inclusivity, while simultaneously addressing the educational needs of communities where Urdu holds significant cultural and communicative importance. Understanding the precise number and status of these schools requires a nuanced approach, considering various factors such as government recognition, funding models, enrollment trends, and the overall socio-economic context in which they operate. India's educational system is vast, with approximately 29.6 million students enrolled in higher education institutions, encompassing around 712 universities and 36,671 colleges ([Joshi and Ahir, 2015](#)). To ascertain the total count of Urdu medium schools, data from various sources, including the Ministry of Education, state education boards, and independent surveys, must be compiled and analyzed, as the figures may vary depending on the criteria used for classification and data collection methodologies.

The status of Urdu medium schools in India is multifaceted, influenced by issues of resource allocation, infrastructure, teacher training, and curriculum development. Many government schools and colleges face challenges due to inadequate funding and insufficient resources to effectively meet the needs of their students, which greatly affects the learning process. The availability of qualified Urdu teachers, particularly in subjects beyond language and literature, is a critical factor determining the quality of education provided. Furthermore, the integration

of modern pedagogical techniques and technologies in Urdu medium schools is essential to ensure that students receive a competitive education that prepares them for higher studies and future employment opportunities. The curriculum in Urdu medium schools must strike a balance between preserving the linguistic and cultural heritage of Urdu while also equipping students with the skills and knowledge necessary to succeed in a globalized world ([Iyer& Ramachandran, 2019](#)).

Urdu's historical trajectory in India is intertwined with the socio-political dynamics of the subcontinent. Once a language of court and culture, it faced marginalization after independence, particularly in regions where it was not the dominant language (Ashraf et al., 2021). The perception of Urdu as a language associated with a particular religious or social group has further contributed to its decline, especially in the face of linguistic nationalism and regionalism that promote the use of dominant regional languages in education and administration. Several factors contribute to the challenges encountered by students transitioning from vernacular medium schools to English-medium higher education institutions, including difficulties in expressing themselves proficiently in English, which causes hesitation and pauses (Sharma &Puri, 2020).

Consequences of digital divide

The digital divide in Urdu medium institutions in India spawns many problems for students coming out from them. It not only hinders their access to digital resources and outline opportunities, but it also leads to diminished educational outcomes and abilities. It limits their ability to participate in online learning, access remote instructions and engage in collaborative projects, which in turn, potentially leading to academic setback and cultural shock. It also increase socio- economic inequality and impacts its employability prospects of students churning out of Urdu medium schools. Technological advancements also might result in school and higher education dropouts due to inaccessibility to devices and connectivity to internet.

The amalgamation of technological advancements within the educational sphere has surfaced as a revolutionary impetus, fundamentally altering conventional pedagogical and learning frameworks. The integration of technology into India's education system represents a profound shift, propelling the nation from traditional pedagogical methods towards a digitized learning environment. This transformation is not merely about introducing computers and the internet into

classrooms but encompasses a fundamental reimagining of how knowledge is imparted, accessed, and applied. The advent of technological advancements within the educational sector has facilitated the availability of an extensive array of resources that transcend conventional textbooks, enabling learners to engage with interactive simulations, multimedia materials, and international databases, thus augmenting the educational experience and offering diverse pathways for comprehending intricate topics.

The transformative potential of technology is recognized by the Government of India to launch several ambitious policies and initiatives aimed at integrating digital technologies into the education sector. These policies often emphasize teachers' ability to use digital technologies for pedagogic purposes and the use of digital technologies by teachers as one of the evaluation criteria for ranking institutions.

The National Education Policy 2020, for instance, lays considerable emphasis on leveraging technology to enhance learning outcomes, improve teacher training, and expand access to quality education across the country. The policy focuses on technology-driven learning, indicating that the government is expected to take steps to address issues in the education sector. Initiatives such as the National Mission on Education through Information and Communication Technology and the e-Pathshala program have been impetus in creating digital learning platforms, developing e-content, and providing infrastructure support to educational institutions. Moreover, the Digital India campaign has further accelerated the adoption of technology in education by improving internet connectivity and promoting digital literacy among students and teachers.

Ministry of Education on Urdu medium schools

The Indian Constitution recognizes Urdu as one of the nation's scheduled languages, thereby entitling it to protection and promotion. The Ministry of Education in India plays a crucial role in shaping the educational landscape for Urdu-medium schools, influencing curriculum development, teacher training, and resource allocation ([Iyer and Ramachandran, 2019](#)). Historically, the East India Company acknowledged its educational responsibilities in British India through the Charter Act of 1813, emphasizing the promotion of oriental languages and literature while also aiming to enhance the knowledge of Western sciences among the Indian population ([Rashid, 2024](#)). This marked an initial step towards

integrating indigenous languages within the formal education system, though the focus later shifted with evolving colonial policies. The evolution of Urdu's status in education during British India saw varied phases, with Sir Syed Ahmed Khan initially advocating for Persian and later championing English, reflecting the changing dynamics of political power and knowledge access ([Rahman, 2000](#)).

The contemporary role of the Ministry of Education involves to establish adequate infrastructure, employ qualified teachers, and modernize pedagogical approaches in many Urdu-medium schools. Moreover, regional disparities significantly impact the quality of education, necessitating targeted interventions to uplift schools in marginalized areas. The cultural politics of language in India have resulted in an impasse regarding the determination and decision-making around a national language policy ([Iyer & Ramachandran, 2019](#)). Linguistic diversity, coupled with historical and political sensitivities, complicates the implementation of a uniform language policy across the nation.

The Ministry's policies are designed to ensure that Urdu-medium schools provide quality education while preserving and promoting the Urdu language and culture. The three-language formula, which promotes the study of Hindi, English, and a regional language, is frequently debated concerning its implementation in Urdu-medium schools, especially in regions where Urdu is not the primary language. The National Curriculum Framework guides curriculum development, influencing the content and pedagogy in Urdu-medium schools, with the goal of integrating modern educational practices while retaining cultural relevance. The status of English as a dominant language in education further complicates the linguistic landscape, often overshadowing the significance and usage of regional languages like Urdu ([Kumar, 2021](#)).

The promotion of Urdu language and literature remains a crucial aspect of the Ministry's efforts, with various schemes and programs aimed at supporting Urdu academies, literary organizations, and research institutions. Policies or programs by the Ministry of education often encounter substantial impediments in their effective realization, stemming from a complex interplay of factors such as fiscal limitations that constrain resource allocation, intricate bureaucratic procedures that impede efficient execution, and a notable absence of cohesive alignment and synergistic action between the central and state governmental bodies. Moreover, the success of these initiatives hinges significantly on the active engagement and participation of local communities, whose insights and

requirements must be duly incorporated into the planning and implementation phases to ensure their relevance and sustainability.

Leveraging Technology to Strengthen Urdu Education in India

The integration of technology into Urdu education in India presents an opportunity to revitalize the language and enhance its accessibility in the modern era. Bridging the gap between traditional teaching methodologies and contemporary technological advancements can unlock new avenues for language acquisition, cultural preservation, and community engagement. By strategically incorporating digital tools and platforms, educators can create more interactive, engaging, and personalized learning experiences for students of all ages and backgrounds.

One crucial aspect of integrating technology into Urdu education is the development of comprehensive digital resources tailored to the specific needs of Urdu learners ([Pradhan and Dey, 2023](#)). This includes creating interactive online modules, digital libraries of Urdu literature, and multimedia resources that incorporate audio and visual elements to enhance comprehension and retention ([Cao et al., 2023](#)). Furthermore, technology can facilitate access to specialized materials that go beyond traditional textbooks, offering diverse formats and bridging geographical and temporal constraints ([Al-Abdali and Alzayadi, 2020](#)). These resources must be designed with attention to the nuances of the Urdu language, including its script, grammar, and cultural context. ([Viera and Sanchez, 2020](#))

Another vital component of this integration involves training and empowering Urdu teachers to effectively utilize technology in their classrooms ([Melkonyan and Matevosyan, 2020](#)). Providing educators with the necessary skills and resources to incorporate digital tools into their teaching practices is essential for successful implementation ([Rouf, 2022](#)). This includes offering professional development programs that focus on pedagogical strategies for using technology to enhance language instruction, assessment, and curriculum development. Moreover, continuous support and mentorship should be available to teachers to address any challenges or concerns they may encounter as they integrate technology into their teaching practices.

The use of blended learning approaches, which combine traditional classroom instruction with online learning activities, can be particularly effective in Urdu education. Blended learning models provide 'students with the flexibility to learn at their own pace and access resources outside of the traditional classroom setting' ([Hilmi and Ifawati, 2020](#)). This approach can be especially beneficial for students in remote areas or those with limited access to Urdu language resources. Blended learning strengthens technological literacy through the use of digital media. Creating virtual communities and online forums where students can interact with one another, share resources, and practice their language skills can also foster a sense of community and collaboration among Urdu learners.

Furthermore, technology can play a crucial role in promoting Urdu language and culture beyond the classroom setting. Developing mobile apps and online platforms that offer interactive language games, cultural content, and opportunities for language exchange can help to engage a wider audience and promote the use of Urdu in everyday life. These platforms can also serve as a valuable resource for diaspora communities, enabling them to maintain their language and cultural heritage.

Urdu education and employment are related to each other closely, thus, online platforms can connect Urdu speakers with employment opportunities in various sectors, such as translation, interpretation, journalism, and education. Various other avenues must be explored to fully realize the potential of technology in bolstering Urdu education and its relevance in the contemporary world ([Abdelaih and Ahmed, 2021](#)).

NEP and Urdu medium education

The incorporation of technological advancements within the realm of education has surfaced as a significant catalyst, fundamentally altering conventional pedagogical and learning frameworks. Within the framework of the National Education Policy (NEP) 2020, technology assumes a crucial function in the enhancement of educational objectives, particularly in the facilitation and advancement of regional languages such as Urdu. This discourse investigates the amalgamation of technology in educational contexts, its ramifications for the Urdu language, and the repercussions of NEP 2020 in promoting this integration.

NEP 2020 on Urdu medium schools articulates a vision for progressive changes in the education system, by integrating mother tongue or local language as

the medium of instruction, particularly in the foundational years. This policy recognizes the importance of multilingualism and aims to reduce the dominance of English by promoting the use of Indian languages in education. The National Education Policy of India also focuses on more technology driven learning, hence it may be expected that government will take adequate steps to address these issues. However, the implementation of the NEP 2020 in Urdu-medium schools requires 'careful planning and resource allocation to ensure that teachers are adequately trained and that appropriate learning materials are available' ([Ashraf et al., 2021](#)).

The Role of Technology in Education under NEP 2020

The National Education Policy 2020 emphasizes the integration of technology to achieve the Sustainable Development Goals (SDGs) and to create a holistic educational system (Kaur, 2024). Technology is seen as a key enabler for improving teaching methods, enhancing student learning experiences, and ensuring equitable access to education. The policy sponsors a National Educational Technology Forum (NETF) to facilitate discussions and effective implementation of technology in education.

Key Features of Technology Integration in NEP 2020

- 1. Digital Infrastructure Development:** NEP 2020 mandates the constant upgrading of technological infrastructure across India to support digital learning.
- 2. Promotion of Digital Skills:** The policy recognizes the need to enhance digital literacy among teachers and students to effectively utilize technology in education.
- 3. Inclusive Education:** Technology is seen as a tool to bridge the digital divide and ensure access to quality education for all, including marginalized communities.

Innovative Approaches to Urdu Language Learning

- 1. Mobile Game-Based Learning:** Studies have demonstrated that mobile-based technology can improve Urdu vocabulary among students with intellectual disabilities, highlighting the potential of interactive and engaging learning tools.
- 2. Multimedia and Interactive Content:** The use of multimedia resources, such as video clips and interactive software, has been shown to enhance Urdu reading skills, particularly among hearing-impaired students.
- 3. Adaptive Learning Platforms:** Technology ‘allows for personalized learning experiences, enabling students to learn Urdu at their own pace and’ according to their individual needs (Norman, 2023).

Challenges in Technology Integration for Urdu Language Learning

Despite the potential benefits, several challenges hinder the effective integration of technology in Urdu language learning. These challenges include:

- 1. Infrastructure Limitations:** Inadequate digital infrastructure, such as poor internet connectivity and limited access to devices, poses a significant barrier to technology integration in education.
- 2. Digital Divide:** Disparities in digital literacy and access to technology among students and teachers can exacerbate existing inequalities in education.
- 3. Resistance to Change:** Some educators and stakeholders may resist the adoption of technology due to a lack of training or unfamiliarity with digital tools.
- 4. Cultural and Socio-Economic Factors:** Cultural and socio-economic factors can influence the adoption and effectiveness of technology in education, particularly in rural and underdeveloped regions.

The Way Forward: Strengthening Technology Integration for Urdu Language Learning

The potential of technology can be optimized by adopting the following strategies;

- 1. Investment in Digital Infrastructure:** Governments and educational institutions must prioritize the development of robust digital infrastructure, including high-speed internet and access to devices
- 2. Teacher Training and Capacity Building:** Professional development programs should be implemented to equip teachers with the skills needed to effectively integrate technology into their teaching practices.
- 3. Culturally Relevant and Context-Specific Solutions:** Technology-based interventions should be tailored to the cultural and linguistic needs of students, ensuring that Urdu language learning is contextual and engaging
- 4. Addressing the Digital Divide:** Policies should focus on reducing disparities in access to technology, ensuring that all students, regardless of their socio-economic background, can benefit from digital learning opportunities.

Conclusion

Education is an important tool for growth trajectory. As we are on the path of attaining developed country by 2047 CE, education has a greater role to play in realizing our vision. The NEP 2020 is well designed and meticulously articulated vision which advocates the role of technology as a fulcrum to transform the landscape of education in India. It has the potential to be inclusive in nature to energize communities for the challenges of the future. The leveraging of technology in education comes with a minimum cost where the government is freed from establishing building and classrooms. The technology has the intent to treat all communities at par to take benefit and promote the vast knowledge of Urdu to the young generation.

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