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Digital Exclusion and Educational Inequity: Exploring the Structural Constraints of India's New Education Policy, 2020

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Abstract: *This paper critically examines the structural constraints within the National Education Policy's (NEP) digitalisation framework, highlighting how it exacerbates existing educational inequities rather than mitigating them. This paper employs a descriptive approach by using secondary data sources. The findings indicate that while digitalisation has the potential to democratise education, its implementation within the NEP perpetuates disparities among various socio-economic groups. The study identifies structural constraints within the NEP's digitalisation strategy: Inadequate Infrastructure, Unequal Access, and Digital Illiteracy. These constraints intersect with existing socio-economic disparities, widening the educational gap. Recommendations include investing in digital infrastructure in underserved areas, promoting digital literacy initiatives, and fostering teacher training programs that integrate technology effectively. It calls for reevaluating the policy's digitalisation strategies to ensure they align to reduce educational inequity and promote a more inclusive and accessible education system. Additionally, the study emphasises the importance of a holistic approach that combines digital and traditional methods to ensure equitable access to quality education.*

Keywords: *Digital Divide, National Education Policy of India, Marginalised Communities, Educational Injustice, Social Exclusion.*

1. INTRODUCTION :

The digital divide was initially perceived as a binary option between "having and not having" access to information and communication technology (1). There is a digital gap in the world, which indicates the disparity between countries regarding technology use, access to technology, economic level, and political backing (2). Even today, there is still debate regarding who coined the phrase 'digital divide' and when it occurred. According to Larry Irving, he used this word to differentiate between individuals who are heavily interested in technology and those who are not (3). Moreover, it has been proposed that digital technology solves the problem of digital inequality for marginalised people. To address this imbalance, authorities' primary focus has been providing physical access to digital technology like computers and the Internet. However, many demographic characteristics such as income, education, and place of living - for example, rural vs. urban, age, race, gender, and so on have hampered this access and connection. Obstacles have been marked as gaps (4). The mere provision of information and communication technologies may dissuade us from thinking that the digital divide has been addressed. Bridging the gap demands digital technology to be designed to be accessible to all. ICT and Internet access differ from access to their material (5).

In 2020, India embarked on an ambitious educational reform journey by unveiling its New Education Policy (NEP), a comprehensive blueprint to reshape the nation's educational landscape. Rooted in the promise of quality education for all, the NEP 2020 could bridge longstanding gaps and pave the way for an equitable and inclusive educational future. Central to this transformative vision was integrating digital technology and online learning, heralding the dawn of a new era in Indian education. However, as with any paradigm shift, integrating digital tools and platforms into the educational ecosystem has brought many complex challenges and unforeseen consequences. Among these challenges, a critical and profoundly concerning issue emerged—digital exclusion and its consequential educational inequity. While the NEP 2020's embrace of digitalisation held the promise of democratising education, the reality revealed structural constraints that seemed to exacerbate, rather than alleviate, educational disparities.

This paper serves as a lens through which we explore the intricacies of digital exclusion within the framework of India's NEP, 2020. Through a detailed desktop review, this paper aims to comprehensively understand how digital exclusion manifests within the Indian educational system. In this exploration, the paper aims to illuminate the challenges and provide insights into potential solutions. Acknowledging these structural constraints and their consequences, it hopes to contribute to a nuanced and informed discussion on educational reform and digital inclusion within India. A comprehensive understanding of these issues is the first step toward crafting policies and initiatives to bridge the digital divide and pave the way for India's truly inclusive and equitable educational system.

2. DIGITAL DIVIDE AND MARGINALISED COMMUNITIES :

According to Yuguchi (2008), the digital divide has geographic, demographic, and socioeconomic dimensions. It implies that the negative impact always affects people in vulnerable socio-economic geographic conditions (6). Chakraborty and Bosman (2005) observed clear evidence of nationwide income-related distributional inequalities regarding Personal Computer ownership (7).

Marginalisation is to be distanced from power and resources that enable self-determination in economic, political and social settings. There are various types of marginalisation, such as economic, political, educational, psychological, etc. This marginalisation commonly affects the least influential people, such as senior citizens, women and children, and gender minorities. From the Table 1, we can find that age is one of the demographic factors affecting the digital divide in India. The digital divide is growing in the country between the old and younger generations. Most internet users belong to the younger age group, and the internet usage of the old generation is significantly less compared with younger people. Friedman (2001) observed that the Internet penetration rate among young residents is substantially higher than that among elderly residents in both developed and developing countries (8). According to Loges and Jung (2001), there are significant differences between old and young Americans in Internet access (9).

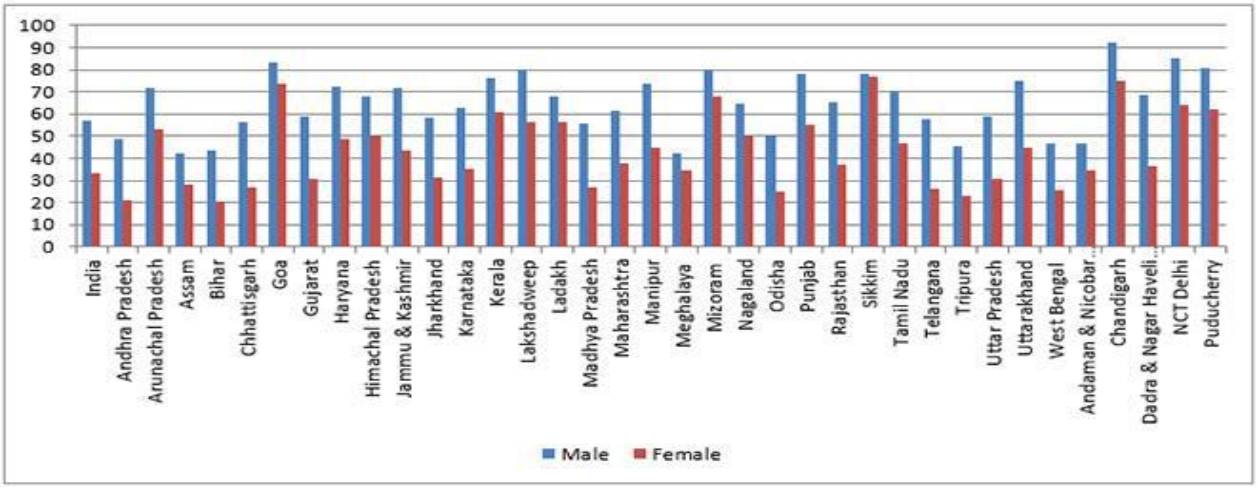
Table 1: Age-wise Distribution of India's Internet Users in 2016

Age Groups	Percentage of Internet Users
Up to 35	74
35 years and above	26

Source: India Statistics, 2016

Gender discrimination is one of the critical factors we can see in all sections and sectors of society, which can also be seen in the case of the digital divide. UNESCO accepts the gender divide as one of the most significant inequalities to be amplified by the digital revolution (10). Chen and Wellman (2004) found that gender is one of the important factors affecting access to and use of the Internet; males are more likely than females to access and use the Internet (11). Bimber (2000) found a significant gap between genders in accessing and using the Internet, and it exists because of differences between men and women in socioeconomic status, which affects Internet access and use (12). According to Broos and Roe (2006), even in Western Europe, gender is one of the significant factors structuring the digital divide (13).

Figure 1: Internet Usage – State-Wise Gender Divide



Source: National Family Health Survey, Government of India 2019-20

This graph also shows a significantly more significant gap in internet usage. In every state, we can see the gender gap in internet usage. The gap is very significant in every state. This trend can also be seen in urban and rural areas. Geographical and gender marginalisation is existing in the case of internet usage. All over the country, the highest users of the internet are urban males, and the lowest users are rural females. It implicates the geographical and gender divide in internet usage.

3. DIGITAL DISPARITIES IN EDUCATION: CHALLENGES AND OPPORTUNITIES UNDER NEP 2020

The COVID-19 pandemic has prompted students worldwide to adopt virtual learning. However, this shift has proven smoother for privileged students compared to underprivileged ones who lack access to internet services and devices. This digital divide results in unequal educational quality. Various countries, including India, are taking steps to bridge this gap. Addressing challenges concerning digital learning is paramount, especially within the framework of the NEP of India 2020, which places a heightened emphasis on technology-driven education. NEP 2020 dedicates a section to including Socio-Economically Disadvantaged Groups (SEDGs), such as girls, transgender individuals, children with special needs, those from rural areas, Dalits, and trafficking victims. It acknowledges the inadequate support for children with disabilities due to teacher training gaps, thus aiming to enhance teacher preparation in special education. Additionally, the policy highlights that SEDG children, especially girls, face high rates of non-enrolment, dropouts, and limited learning and "recommends that the policies and schemes designed to include students in SEDGs … should be especially targeted towards girls" (14).

Anticipated to provide substantial momentum, the NEP 2020 underscores the pivotal role of technology across all dimensions of education (15), advocating its use at all levels and highlighting the importance of incorporating artificial intelligence, coding, and computational thinking into the curriculum (16). The NEP underlines a reciprocal correlation between technology and education (17). Progress in technology will substantially influence education; conversely, advancements in education will prepare a capable workforce through intelligent learning methods. Incorporating digital tools like smartphones, gadgets, and smart boards will facilitate astute learning. This mutual interaction is expected to nurture engineers, innovators, entrepreneurs, software developers, and scientists, ultimately cultivating a skilled workforce for the nation. As per the policy, the suitable infusion of technology across all educational tiers aims to bolster teacher training and advancement, enhance the procedures of teaching, learning, and evaluation, improve educational access for marginalised groups, and optimise the organisation, administration, and management of education (18).

The NEP 2020 underscores the benefits of technology in preparing students for the future. However, most schools lack the resources to establish digital infrastructure, such as digital classrooms, remote professional teaching models, and augmented reality or virtual reality technologies (19). These technologies could address gaps in physical education and laboratory equipment. Advocating for the promotion of these resources is essential. Moreover, implementing a nationwide digital infrastructure can reduce costs for schools. Additionally, rural areas often suffer from limited Internet access, impeding the utilisation of digital learning resources there. Consequently, the government must invest in the foundational infrastructure to facilitate digital advancements across all sectors.

Table 2: Technology Access Disparities in India (2017-2018)

	Rural	Urban
Household with computers	4.4 %	23.4%
Household with internet	14.9%	42 %
Individuals operating computers (5+ years)	9.9%	32.4%
Individuals using internet	13%	37.1%

Source: NSSO Survey, 2019

The analysis of a survey conducted by the National Sample Survey of India (NSSO) between July 2017 and June 2018 reveals significant disparities in technology access between rural and urban India. According to the survey, a mere 4.4 per cent of rural households possess computers, in contrast to 23.4 per cent of urban households. Similarly, only 14.9 per cent of rural households have internet access compared to 42 per cent of urban households. The survey also highlights the divide in digital literacy, with 9.9 per cent of rural individuals aged five years and above able to operate a computer, in contrast to 32.4 per cent in urban areas. Regarding internet usage, 13 per cent of rural individuals were proficient, as opposed to 37.1 per cent in urban regions. See Table 2 for more clarification.

Ensuring that every student, regardless of their urban or rural location, possesses dedicated access to digital devices such as smartphones, computers, or tablets is paramount. Many economically disadvantaged students lack exclusive access to digital tools, the Internet, and electricity (20). While digital education presents numerous advantages and grants unparalleled entry to top-tier learning, its execution carries imperfections that can undermine the effectiveness of any online education (21). To bridge the digital gap, NEP suggests utilising television, radio, and community radio for educational content, encompassing regional languages. However, it fails to tackle gender disparities and online classes' potential physical and psychological health implications (22).

Digital libraries can serve as a platform for collaborative learning and allow students to reach out to educational resources at any time and from any location. They are also a cost-effective means of accessing high-quality educational content. Arora (2023) says that digital libraries can help students achieve more, ease the financial burden on students, foster critical thinking, and raise the education standard by applying technology (23). Policymakers should prioritise implementing such digital initiatives to bridge the digital divide. While it agrees that the NEP presents progressive strategies for advancing e-learning resources and promoting equitable technological access, it falls short of effectively confronting the significant structural obstacles inherent in digital learning within India.

4. CONCLUSION :

The digital-centric approach sidelines traditional pedagogical methods and ignores the complexities of India's diverse educational landscape. This research underscores the need for a more nuanced and inclusive approach to digitalisation within the NEP. Ultimately, this study contributes to the discourse on educational reform and digital inclusion in India, offering insights into the challenges and opportunities presented by the New Education Policy, 2020. The study identifies structural constraints within the NEP's digitalisation strategy: Inadequate Infrastructure, Unequal Access, and Digital Illiteracy. These constraints intersect with existing socio-economic disparities, widening the educational gap. Recommendations include investing in digital infrastructure in underserved areas, promoting digital literacy initiatives, and fostering teacher training programs that integrate technology effectively. It calls for reevaluating the policy's digitalisation strategies to ensure they align to reduce educational inequity and promote a more inclusive and accessible education system. Additionally, the study emphasises the importance of a holistic approach that combines digital and traditional methods to ensure equitable access to quality education.

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