AD EDUXIAN JOURNAL
A Quarterly Multidisciplinary Blind Peer Reviewed & Refereed Online International Journal
Google Scholar Indexing PIF:1.048(I2OR) & 3.125 (IIFS)
Vol (2), Issue (3), Oct-Dec 2025 *ISSN: 3048-7951*

Digital Gap among Students: A Secondary Data Review

Rajat Raj[1]

https://doi.org/10.5281/zenodo.18147304

Review:16/12/2025 **Acceptance:17/12/2025** **Publication:04/01/2026**

Abstract: The digital divide remains a major barrier to equitable education in India, especially after the sudden move to online learning. Despite growth in digital access, wide gaps persist in device availability, internet reliability, and digital skills. Studies by NSSO, ASER, NCERT, TRAI and others show that rural learners, girls, marginalized communities, and poorer families face the greatest disadvantages. Even where devices exist, limited digital literacy, low parental support, and weak home learning conditions hinder effective online participation. Thus, the divide reflects deeper socio-economic inequalities rather than technology alone. Expanding last-mile connectivity, improving affordability, building digital skills, and strengthening teacher training are crucial for inclusive digital education.

Keywords: Digital divide, online learning, ICT access, educational inequality

Introduction: Digital tools have become deeply embedded in the Indian education system, particularly after the COVID-19 pandemic accelerated the shift toward remote learning. Yet, students across the country continue to experience stark inequalities in accessing and using these technologies. Evidence from the NSSO 75th Round, ASER surveys (2020–2022), and NCERT's national study (2020) indicates that the digital divide—once understood mainly as an issue of unequal ICT access—has broadened into a multidimensional challenge linked to long-standing socio-economic disparities (NSSO, 2019; ASER Centre, 2021; NCERT, 2020). These inequalities influence not only students' ability to obtain devices and internet connectivity but also their participation in online classes, communication with teachers, and completion of academic activities. Research consistently shows that children from rural, low-income, and marginalized households struggle due to irregular device availability, weak networks, and limited digital competencies (ASER Centre, 2021; NCERT, 2020). Meanwhile, children from wealthier homes benefit from consistent access and better digital readiness. Understanding these patterns through a careful review of secondary data is critical for evaluating how the digital divide affects educational equity in India.

Literature Review: The digital divide in India is reflected through variations in device ownership, connectivity, and proficiency with digital tools. The NSSO 75th Round (2017–18) reported that fewer than one-fourth of Indian households had internet access, with a wide gap between rural (14.9%) and urban households (42.0%) (NSSO, 2019). ASER (2021) noted that although smartphone availability increased to around two-thirds of surveyed households, many students—especially younger ones—did not have unrestricted access to these devices. Only about one-fifth of children in Grades 1–2 could use a smartphone whenever required (ASER Centre, 2021). NCERT's 2020 survey also underscored the lack of digital resources: more than one-quarter of students did not own a smartphone or laptop, and many reported unstable electricity supply as a barrier to online learning (NCERT, 2020). Gender continues to influence technology use as well, with girls in rural and tribal regions facing more restrictions and fewer opportunities to use digital devices (ASER Centre, 2021). These findings make it clear that

[1] PhD Scholar, Department of Mass Communication, Central University of Jharkhand, Cheri-Manatu, Ranchi, Jharkhand, 835222, Email I'd: rajatr185@gmail.com

the digital divide is not simply a technological issue but is closely tied to broader social inequalities (NSSO, 2019; NCERT, 2020).

Conceptual Framework: The digital divide affecting Indian students can be understood through three intersecting layers:

- **Access Divide** – differences in the availability of devices and internet facilities.
- **Usage Divide** – unequal digital skills and varying levels of comfort or frequency of using technology.
- **Outcome Divide** – disparities in academic performance that arise due to differences in digital access and skill levels (NSSO, 2019; NCERT, 2020).

This framework highlights that meaningful digital inclusion requires addressing all three dimensions.

Methodology (Secondary Data Review): This study is based entirely on secondary information drawn from major national datasets. Key sources include NSSO surveys, ASER reports (2020–2022), NCERT's nationwide 2020 survey on online learning, telecom statistics from TRAI, peer-reviewed research papers, and policy documents such as the National Education Policy 2020 (NSSO, 2019; ASER Centre, 2021; NCERT, 2020; TRAI, 2022; Ministry of Education, 2020).

1. Access to Devices: Limited access to digital devices remains a significant hurdle for students. ASER (2021) reported that while most households had at least one smartphone, only a small proportion of students could use it without restrictions. Many children had to share devices with family members, and around one-fourth had no meaningful access even when a phone was present at home (ASER Centre, 2021). NSSO (2019) highlighted even lower levels of access to computers, especially in rural areas, where ownership was below 5%, significantly affecting students' participation in technology-based learning.
2. Internet Connectivity: Connectivity remains highly inconsistent across states and regions. TRAI (2022) data shows that states such as Kerala and Punjab have far better internet penetration compared to states like Bihar, Jharkhand, and Assam. ASER (2021) reported that many rural households continue to struggle with low bandwidth, unstable networks, and frequent signal disruptions, which directly hinder students' ability to attend online classes consistently (ASER Centre, 2021).
3. Digital Skills and Literacy: Digital literacy continues to be an area of concern, particularly for students from isolated, low-income, or tribal communities. Although NCERT (2020) does not provide exact numerical data, its findings reveal that many children rely on family members or teachers to operate learning apps, download materials, or upload assignments. This suggests that a large number of students lack the independent digital skills required for effective online learning (NCERT, 2020).
4. Learning Outcomes: ASER (2022) documented a decline in basic learning abilities during the pandemic. For example, the percentage of Class III students able to read a Class II-level text dropped noticeably between 2018 and 2022 (ASER Centre, 2022). Students who had reliable digital access showed comparatively better learning continuity, while those without access experienced notable academic setbacks.

5. Structural Inequalities: Underlying socio-economic inequalities continue to shape the digital experiences of students. NSSO (2019) and ASER (2021) reveal that children from economically better-off and urban households enjoy far greater digital support and preparedness. Students belonging to SC/ST communities, rural girls, and first-generation learners face multiple disadvantages—limited devices, poor connectivity, and a lack of digital awareness—all of which restrict their participation in online learning (ASER Centre, 2021; NSSO, 2019).

Need for Reformation: Addressing the digital divide is crucial because unequal digital access continues to perpetuate educational disparities. Although digital tools are now widely used for teaching, assessment, and communication, many students still lack essential resources for effective online participation. National data shows that gaps in device ownership, connectivity, and digital preparedness disproportionately affect students from disadvantaged backgrounds (NSSO, 2019; ASER Centre, 2021; NCERT, 2020). Shared smartphones, poor networks, and lack of digital skills significantly widen learning gaps.

Reform measures must focus on improving access to affordable and dependable internet services, especially in rural and tribal regions. Strengthening digital infrastructure through the expansion of optical fiber networks and establishing community-based digital access centers can support this goal (TRAI, 2022). Ensuring device availability through subsidies, loans, or government-supported distribution programs can also help students who lack personal devices (Ministry of Education, 2020). Beyond access, improving digital literacy is critical. Girls, SC/ST students, and first-generation learners benefit greatly from targeted digital training programs (NCERT, 2020; ASER Centre, 2021). Integrating digital tools into classroom teaching and investing in regular teacher training can support blended learning and make digital participation more meaningful (Ministry of Education, 2020). Community learning spaces and public ICT hubs can also offer shared access for students who have limited resources at home.

Conclusion: The digital divide among Indian students continues to be shaped by economic conditions, geographical differences, and social inequalities. While the availability of smartphones and internet services has improved, large sections of rural and marginalized communities still face major barriers to meaningful digital learning. Findings from NSSO (2019), ASER (2021), and NCERT (2020) make it clear that limited device access, unstable connectivity, and low digital literacy remain significant obstacles. Bridging these gaps requires a coordinated strategy that expands digital infrastructure, improves device access, enhances digital skills, and promotes inclusive learning practices in line with the NEP 2020 (Ministry of Education, 2020).

Reference:

- ASER Centre. (2021). *Annual Status of Education Report (Rural) 2021.* ASER Centre. https://www.asercentre.org
- ASER Centre. (2022). *Annual Status of Education Report (Rural) 2022.* ASER Centre. https://www.asercentre.org
- Ministry of Education. (2020). *National Education Policy 2020.* Government of India. https://www.education.gov. National Council of Educational Research and Training. (2020). *Students' Access to Digital Devices and Online Learning During COVID-19: National Survey Report.* NCERT. https://ncert.nic.in

- National Statistical Office. (2019). *NSS 75th Round: Household Social Consumption on Education in India (2017–18).* Ministry of Statistics and Programme Implementation, Government of India. http://mospi.gov.in.
- Telecom Regulatory Authority of India. (2022). *Telecom Services Performance Indicators Report.* TRAI. https://trai.gov.in