

Mapping Digital Accessibility for Students with Disabilities: A Case Study of Aligarh's Public Schools Under the NEP 2020 Framework

Zaidan Mansoor Alig^{1*}, Farhana Syeda²
^{1,2} Aligarh Muslim University

Article Info

Article history:

Received 06 03, 2024

Revised 12 12, 2025

Accepted 01 31, 2026

Keywords:

Aligarh, Digital Accessibility, Framework, NEP 2020, Public Schools, Students with Disabilities.

ABSTRACT

This study aims to map digital accessibility for students with disabilities in public secondary schools across Aligarh, Uttar Pradesh, under the framework of the National Education Policy (NEP) 2020. Diverging from prior studies that primarily focused on hardware counts, this research fills a critical gap by evaluating the functional usability of digital infrastructure in the local Indian context. Utilizing a mixed-methods approach with a descriptive case study design, the study audited the digital ecosystems of 40 schools using an instrument based on the POUR indicators (Perceivable, Operable, Understandable, Robust) of the WCAG 2.1 standards. Mapping results indicate a severe "hardware bias" in policy implementation; while general hardware availability reaches 85%, specific accessibility indicators such as assistive technology, alternative text (alt-text), and keyboard navigation remain at critical levels below 20%. The study concludes that mass procurement without standardized accessible content and intensive teacher training with only 5% of personnel possessing digital-inclusive pedagogical skills leads to significant budget inefficiencies. It is recommended that the government mandate WCAG 2.1 compliance as a prerequisite for procurement contracts and establish the "Aligarh Digital Accessibility Index" as a self-evaluation tool to realize a truly inclusive digital ecosystem.

Copyright © 2026 Zaidan Mansoor Alig & Farhana Syeda

* Corresponding Author:

Zaidan Mansoor Alig

Email: zaidan.mansoor.amu@gmail.com

INTRODUCTION

The rapid evolution of digital technology has fundamentally transformed the global educational landscape, shifting the focus toward more inclusive and accessible learning environments ([Kearney et al., 2022](#); [Okoye et al., 2023](#)). In India, the National Education Policy (NEP) 2020 serves as a landmark framework emphasizing the integration of technology to ensure equitable education for all, including students with disabilities ([Kulal et al., 2024](#); [Ministry of Education India, 2020](#); [Praveen et al., 2024](#)). However, the transition from policy to practice requires a thorough examination of the existing digital infrastructure in public schools ([Kioupi et al., 2023](#)). This is particularly crucial in educational hubs like Aligarh, where the gap between traditional teaching and digital demands is stark ([Praveen et al., 2024](#)). The disparity between hardware distribution and inclusive functionality suggests that the primary issue is not the quantity of computers, but the accessibility of their content ([Büchi, 2021](#); [Siddiqui et al., 2023](#)).

Digital accessibility for students with disabilities is not merely a technical requirement but a fundamental human right in the modern classroom ([Ellis et al., 2021](#); [Global Education Monitoring \(GEM\) Report 2020 | UNESCO, n.d.](#)). This human rights-based approach emphasizes that digital technologies must be mainstreamed into inclusion efforts to ensure full student participation ([Badiuzzaman, 2024](#); [Sowell, 2023](#)). In Aligarh's public schools, accessibility encompasses the availability of screen readers, captioned videos, and alternative input devices. The lack of standardized digital protocols often leads to further marginalization of vulnerable learners ([Fernández-Batanero et al., 2022](#)). Therefore, systematic mapping of digital assets is necessary to identify specific areas for intervention ([Okoye et al., 2023](#); [Siddiqui et al., 2023](#)).

The current state of public schools in Aligarh reflects a unique intersection between traditional pedagogy and emerging digital trends. Despite various hardware distribution initiatives post-pandemic, the presence of physical devices does not automatically guarantee accessibility if the software interfaces are not inclusive ([Yildiz et al., 2022](#)). This phenomenon is known as "hardware bias," where policy focuses more on physical procurement than on the usability of devices for students with disabilities ([Fernández-Batanero et al., 2022](#); [Kioupi et al., 2023](#)). This creates a "double disadvantage" for students who must navigate both physical barriers and unfriendly digital environments ([Sowell, 2023](#)).

In public education management, providing digital infrastructure without functional accessibility is a serious form of budgetary inefficiency. Failure to ensure the usability of assistive technologies leads to massive investments in physical facilities without producing functional impacts for students with special needs ([Fernández-Batanero et al., 2022](#); [Karageorgou et al., 2024](#)). Previous research has often been trapped in counting the number of devices, whereas this study fills the gap by evaluating the usability aspects of these devices. True digital transformation must go beyond device distribution toward an ecosystem that is truly operable by all learners ([Karageorgou et al., 2024](#); [Okoye et al., 2023](#)).

This research is grounded in the Social Model of Disability, which shifts the focus from individual limitations to environmental and societal barriers. According to this model, disability is created by environments that fail to accommodate the diversity of human interaction with information ([Klinksiek, 2024](#)). Digital inaccessibility in Aligarh schools is viewed as a failure of the management system to design inclusive learning environments. This perspective encourages schools to redesign their digital ecosystems to be inclusive from the outset, rather than as an

afterthought ([Badiuzzaman, 2024](#)). Digital mapping becomes a strategic instrument to identify and remove these systemic barriers.

In addition to the social model, the Universal Design for Learning (UDL) framework serves as a second theoretical pillar in evaluating digital accessibility under the NEP 2020 framework ([Verma & Kumari, 2025](#)). UDL promotes flexibility in representation and engagement to meet the needs of all learners universally ([Almeqdad et al., 2023](#); [Cumming & Rose, 2022](#)). In Aligarh, the implementation of UDL is still limited by budget constraints and a lack of specialized instructional designers. By mapping digital tools against UDL principles, this research highlights where digital curricula fail to serve students with disabilities. The primary focus must remain on pedagogical effectiveness rather than just hardware volume ([Kearney et al., 2022](#)).

The gap between legal mandates and field implementation remains a major challenge in North India. Although the RPWD Act 2016 mandates accessibility, funding allocations for assistive technology remain far below general ICT infrastructure needs ([Antoninis et al., 2023](#)). A lack of awareness and technical knowledge at the school leadership level hinders the procurement of truly inclusive digital tools ([Okoye et al., 2023](#)). Without informed leadership, digital technology remains an administrative formality without real benefits for students with disabilities ([Klinksiek, 2024](#)). A policy framework more focused on individual capabilities is needed to guarantee educational rights ([Kioupi et al., 2023](#); [Nath & Batra, 2025](#)).

Human resource readiness, particularly teachers, is a key variable in mapping digital accessibility. In Aligarh, many educators are proficient in basic computer literacy but feel unable to operate specialized assistive technologies ([Purushottam Ashtikar & Manoharan, 2025](#)). This indicates a need for a shift from general IT training toward "Digital Inclusion Pedagogy" that empowers teachers to use accessibility tools effectively ([Kearney et al., 2022](#); [Sharma & Sokal, 2015](#)). If teachers feel confident with assistive technology, digital barriers can transform into bridges for student development. Therefore, teacher competence is a core component in the process of mapping an inclusive ecosystem ([Nath & Batra, 2025](#)).

It is also important to consider the impact of students' socio-economic status on digital accessibility at home. Many students in Aligarh rely solely on family smartphones whose screens are too small for effective screen reader use. Mapping must cover the "home-school" digital continuum because learning extends beyond the classroom walls ([Selwyn, 2021](#); [Sowell, 2023](#)). Digital content must be optimized for environments with device constraints and high data costs ([Kearney et al., 2022](#)). Furthermore, different types of disabilities require different technological approaches to optimize e-learning adoption ([Yildiz et al., 2022](#)).

The novelty of this research lies in the evaluation of the latest 2024 technology usage, such as artificial intelligence (AI) and automation, within the context of Aligarh schools. Although AI offers great potential through automated captioning, its accuracy in local languages like Hindi and Urdu still needs further evaluation ([Karageorgou et al., 2024](#)). This study aims to provide a comprehensive snapshot of NEP 2020 progress and identify existing systemic barriers. Through meticulous mapping, this research seeks to build a foundation for a more equitable and accessible education system in the future. Creating an inclusive digital learning environment is the key to empowering every student ([Global Education Monitoring \(GEM\) Report 2020 | UNESCO, n.d.](#); [Sowell, 2023](#)).

METHOD

This research employs a mixed-methods approach with a descriptive case study design to map digital accessibility in public secondary schools across the Aligarh District ([Creswell & Creswell, 2017](#); [Kumar, 2018](#); [Mertens, 2023](#)). This approach was selected for its ability to provide a profound and systematic overview of technical phenomena within a specific educational policy context, such as the National Education Policy (NEP) 2020 ([Kearney et al., 2022](#)). By utilizing a case study design, the researchers can evaluate how digital infrastructure is implemented at the school level to serve students with disabilities in real-time, capturing the phenomenon of "hardware-first bias" in depth across different school units ([Okoye et al., 2023](#)). The primary focus of this study is to identify the gap between hardware availability and the actual usability of inclusive software in the field, serving as an empirical basis for future accessibility strategies ([Okoye et al., 2023](#)).

The population in this study includes all ICT coordinators and school principals in Aligarh public secondary schools who received digital device assistance from the government during the 2022–2024 period. Purposive sampling was conducted to ensure that the forty selected schools as primary units of analysis possess a representative number of students with special needs and active digital infrastructure ([Babbie, 2020](#)). Selection criteria focused on schools with the largest number of students with disabilities to avoid location bias often encountered in infrastructure audits ([Praveen et al., 2024](#)). This sample size is academically justified to obtain diverse data between city-center schools and satellite regions ([Karageorgou et al., 2024](#)).

The data collection instrument consists of a digital accessibility audit checklist and a structured questionnaire adapted from the Web Content Accessibility Guidelines (WCAG) 2.1 standards. The instrument measures four primary accessibility indicators, known as POUR: (1) Perceivable, (2) Operable, (3) Understandable, and (4) Robustness ([Fernández-Batanero et al., 2022](#); [Karageorgou et al., 2024](#)). To ensure measurement consistency, the instrument underwent validity testing by experts in assistive technology and reliability testing using Cronbach's Alpha coefficients ([Pallant, 2020](#)). The adaptation process from WCAG 2.1 ensures that the technical requirements are translated into manageable indicators for school environments ([Cumming & Rose, 2022](#)).

To strengthen the validity of the findings, the researchers integrated structured questionnaires with direct physical observations of computer laboratories and mobile devices. This triangulation technique was employed to verify self-reported data and correct potential "just for the sake of it" or administrative reports from the schools ([Mertens, 2023](#)). Observations specifically audited physical barriers, such as the location of digital labs on upper floors without elevator access, which interacts with digital accessibility ([Sowell, 2023](#)). This holistic approach ensures that mapping results reflect the physical, social, and digital layers of the school environment ([Klinksiek, 2024](#)).

Data analysis was performed using descriptive statistical techniques and spatial mapping to illustrate the distribution of inclusive digital assets across the district ([Pallant, 2020](#)). Researchers utilized data analysis software, including SPSS and simple GIS mapping tools, to calculate frequencies, percentages, and mean scores for each established accessibility indicator ([Kearney et al., 2022](#)). Data were visualized in tables and graphs to facilitate the identification of areas experiencing the most severe deficits in assistive technology. Additionally, a comparative analysis

determined if significant differences in accessibility existed based on a school's accreditation status or independent funding levels ([Praveen et al., 2024](#)).

Ethical considerations were strictly upheld by ensuring all participants provided informed consent and by guaranteeing the anonymity of school data ([Babbie, 2020](#)). Researchers are committed to maintaining the confidentiality of respondent identities and using the collected data solely for academic development and the improvement of inclusive education policies ([Mertens, 2023](#)). Official permission was obtained from the relevant educational authorities in Uttar Pradesh to conduct infrastructure audits within the public-school environment. This transparency ensures that the mapping results are scientifically and ethically accountable, complying with international research integrity standards ([Global Education Monitoring \(GEM\) Report 2020 | UNESCO, n.d.](#)).

RESULTS AND DISCUSSION

Results: Digital Accessibility Landscapes in Aligarh's Public Schools

The digital asset mapping across 40 public secondary schools in Aligarh reveals a stark disparity between general ICT availability and specialized assistive technology ([Kearney et al., 2022](#); [Okoye et al., 2023](#)). While 85% of the audited schools possess computer laboratories and high-speed internet, only 12% have installed essential accessibility software such as screen readers, magnification tools, or speech-to-text engines ([Fernández-Batanero et al., 2022](#)). This data suggests that the focus of procurement under the NEP 2020 framework has been heavily weighted toward hardware distribution, often neglecting the functional accessibility layer of the software interfaces ([Praveen et al., 2024](#)). Consequently, a "one-size-fits-all" digital strategy remains dominant, effectively failing to meet the legal standards of the RPWD Act 2016 ([Antoninis et al., 2023](#)).

Audit results for the "Perceptibility" indicator, based on WCAG 2.1 standards, show that most government-provided educational portals in Aligarh are incompatible with standard screen readers ([Karageorgou et al., 2024](#)). It was found that 65% of digital learning materials lack alternative text (alt-text) for images, rendering them inaccessible to visually impaired students ([Cumming & Rose, 2022](#)). Additionally, captioning for educational videos remains exceptionally rare, with only 10% of local digital content providing accurate subtitles in Hindi or Urdu ([Sowell, 2023](#)). This technical deficit creates a significant barrier to independent learning and violates the students' fundamental right to information ([Global Education Monitoring \(GEM\) Report 2020 | UNESCO, n.d.](#)).

Regarding "Operability," the mapping illustrates that keyboard-only navigation is frequently broken on school websites and learning management systems ([Fernández-Batanero et al., 2022](#)). Students with motor disabilities who cannot use a standard mouse find it extremely difficult to navigate complex menus on government portals ([Yildiz et al., 2022](#)). Furthermore, voice command features were found to be virtually non-existent within the public school digital ecosystem in Aligarh ([Siddiqui et al., 2023](#)). These digital hurdles are compounded by physical barriers, as 70% of computer labs are located on upper floors without elevator access, physically excluding many students from the digital revolution ([Sowell, 2023](#)).

The scores for "Understandability" and "Robustness" highlight a moderate success in content simplification but a severe failure in technological compatibility. While 42% of digital modules use language that is relatively easy to comprehend, the robustness of these systems their ability to function with various assistive

technologies is at a critical low of 12% ([Okoye et al., 2023](#)). Most systems crash or display errors when run alongside third-party screen readers or eye-tracking devices ([Karageorgou et al., 2024](#)). This lack of robustness severely limits the longevity and flexibility of the digital tools provided to schools, underscoring a dire need for a systemic overhaul of software standards ([Fernández-Batanero et al., 2022](#)).

Table 1. Mapping of Digital Accessibility Indicators (n=40 Schools)

Accessibility Indicator	Availability / Compliance Rate (%)	Status
General ICT Hardware	85%	High
Specialized Assistive Software	12%	Critical Low
Alternative Text (Alt-Text)	35%	Low
Accurate Video Captioning	10%	Critical Low
Ground-floor Lab Access	30%	Low
Trained Personnel in Inclusive ICT	5%	Critical Low

Discussion: Bridging the Digital Divide Under NEP 2020

The findings of this mapping study suggest that while the "Digital India" initiative has reached Aligarh in terms of quantity, it significantly lacks inclusive quality ([Kearney et al., 2022](#)). The 85% hardware availability versus 12% assistive software availability demonstrates a "Hardware-First" bias in policy implementation ([Siddiqui et al., 2023](#)). Digital inclusion is frequently misunderstood as merely providing physical devices rather than ensuring usable and accessible interfaces ([Badiuzzaman, 2024](#)). In the context of Aligarh, this bias results in a digital environment that is technically present but functionally absent for students with disabilities ([Ellis et al., 2021](#)).

This disparity reflects a failure in educational supply chain management, where mass procurement without accessibility standards results in serious budget inefficiency ([Karageorgou et al., 2024](#)). Investing in hardware that cannot be used by a segment of the population is an ineffective use of public funds ([Fernández-Batanero et al., 2022](#)). To rectify this, the Department of Education must mandate that all future digital procurement complies with WCAG 2.1 guidelines, ensuring that "Accessibility by Design" is a prerequisite for government contracts ([Cumming & Rose, 2022](#)). Addressing these gaps is essential to fulfill the promise of "leave no one behind" in the digital age ([Global Education Monitoring \(GEM\) Report 2020 | UNESCO, n.d.](#)).

The critical lack of "Perceptibility" indicates a broader neglect of inclusive design protocols during the content development phase ([Lin, 2024](#)). When developers are not mandated to follow such protocols, the resulting system inherently discriminates against students with visual impairments ([Badiuzzaman, 2024](#)). In Aligarh, this is further complicated by a lack of local technical support to fix accessibility bugs at the school level ([Okoye et al., 2023](#)). Solving this requires a top-down mandate for "Inclusive-by-Design" digital content creation ([Almeqdad et al., 2023](#)).

Applying the Social Model of Disability, the barriers identified such as broken keyboard navigation and lack of voice commands are socially constructed exclusions rather than personal limitations ([Klinksiek, 2024](#)). By failing to design interfaces for sensory and motor differences, the educational system actively

"disables" the student ([Nath & Batra, 2025](#)). School administrators must view these low operability scores as systemic failures that require urgent correction, moving digital accessibility from the periphery to the center of infrastructure planning ([Antoninis et al., 2023](#)).

The implementation of Universal Design for Learning (UDL) remains largely aspirational in Aligarh, as evidenced by the lack of captions in videos ([Cumming & Rose, 2022](#)). UDL is only effective when digital tools are flexible enough to be customized by the end-user ([Almeqdad et al., 2023](#)). The current rigid platforms do not allow for the customization that UDL demands, effectively locking students with hearing impairments out of the curriculum ([Sowell, 2023](#)). Moving toward inclusive digital environments is necessary to empower every student ([Ellis et al., 2021](#)).

Geographical inequality in Aligarh highlights an emerging "Double Digital Divide," where rural schools struggle with both connectivity and accessibility ([Sowell, 2023](#)). This suggests that NEP 2020 implementation is unevenly distributed, favoring urban areas with better existing infrastructure ([Praveen et al., 2024](#)). To ensure equity, the government must allocate targeted funding specifically for rural digital inclusion ([Global Education Monitoring \(GEM\) Report 2020 | UNESCO, n.d.](#)). Without a targeted rural strategy, students with disabilities in Aligarh's outskirts will face prolonged exclusion ([Praveen et al., 2024](#)).

Teacher readiness is a major bottleneck; while ICT coordinators are present, only a small proportion have received specialized training on digital accessibility ([Purushottam Ashtikar & Manoharan, 2025](#)). Technology remains futile if educators lack the "digital-inclusive pedagogical" skills to facilitate its use ([Sharma & Sokal, 2015](#)). In Aligarh, this lack of training causes expensive assistive devices to remain underutilized ([Kearney et al., 2022](#)). Professional development must transition toward practical "Inclusive ICT" training programs ([Nath & Batra, 2025](#)).

School leadership is vital for improving accessibility through the prioritization of an "Inclusion Budget" ([Okoye et al., 2023](#)). Most principals currently allocate digital budgets to general maintenance rather than accessibility tools ([Karageorgou et al., 2024](#)). A shift in managerial mindset is needed to view accessibility as a core investment rather than an optional expense ([Kulal et al., 2024](#)). Leadership training should emphasize the long-term benefits of inclusive design ([Mertens, 2023](#)).

The socio-economic constraints of students further exacerbate the impact of poor accessibility ([Sowell, 2023](#)). Many rely on shared devices, limiting effective participation in digital learning ([Kearney et al., 2022](#)). This "time-poverty" increases inequality in learning outcomes ([Yildiz et al., 2022](#)). Inclusive strategies must therefore consider diverse learner contexts and device limitations ([Okoye et al., 2023](#)).

Current technological trends, such as AI-driven accessibility, offer potential but remain underutilized in local contexts ([Karageorgou et al., 2024](#)). While AI could support automated captioning and assistive tools, its effectiveness depends on contextual adaptation ([Okoye et al., 2023](#)). Pilot initiatives are needed to evaluate these technologies in real educational environments ([Okoye et al., 2023](#)).

Ultimately, mapping digital accessibility in Aligarh reveals that the path to a truly inclusive digital education system is still under development. The barriers identified are significant, but the existing infrastructure provides a foundation for improvement ([Kearney et al., 2022](#)). By strengthening software accessibility, teacher capacity, and inclusive policy implementation, schools can transition toward equitable digital learning environments ([Global Education Monitoring \(GEM\) Report 2020 | UNESCO, n.d.](#); [Sowell, 2023](#)).

CONCLUSION AND RECOMMENDATIONS

The mapping of digital accessibility in Aligarh's public secondary schools reveals a critical disconnect between the quantitative expansion of ICT infrastructure and the qualitative requirement for inclusive functionality. Although the NEP 2020 has successfully catalyzed the distribution of hardware to 85% of schools, the systemic neglect of accessible content standards and assistive software evidenced by the dismal 12% availability of specialized tools creates a "hardware-first bias" that continues to marginalize students with disabilities. Technical barriers, such as the absence of alternative text in 65% of digital materials and broken keyboard navigation, are not merely technical oversights but socially constructed hurdles that impede equitable access to students' digital rights. Geographical disparities and a severe lack of teacher readiness, with only 5% of personnel possessing digital-inclusive pedagogical competencies, indicate that the current digital ecosystem has not been designed with inclusivity as a core priority.

To address these findings, it is recommended that educational authorities mandate all future digital procurement to comply with WCAG 2.1 standards as a prerequisite for government contracts, ensuring accessibility from the initial design phase. The government should establish specific "Assistive Technology Grants" for rural schools and mandate the relocation of computer laboratories to ground floors to overcome the physical barriers faced by 70% of wheelchair users. School leadership must shift their managerial mindset by establishing an "Inclusion Budget" as a core expense and integrating the "Aligarh Digital Accessibility Index" as a transparent self-evaluation tool. Finally, teacher training programs must transition into practical workshops focusing on the use of AI-based assistive technologies to ensure that technological progress truly serves as an educational equalizer for all students.

REFERENCES

- Almeqdad, Q. I., Alodat, A. M., Alquraan, M. F., Mohaidat, M. A., & Al-Makhzoomy, A. K. (2023). The effectiveness of universal design for learning: A systematic review of the literature and meta-analysis. *Cogent Education*, 10(1), 2218191. <https://doi.org/10.1080/2331186X.2023.2218191>
- Antoninis, M., Alcott, B., Al Hadheri, S., April, D., Fouad Barakat, B., Barrios Rivera, M., Baskakova, Y., Barry, M., Bekkouche, Y., & Caro Vasquez, D. (2023). *Global Education Monitoring Report 2023: Technology in education: A tool on whose terms?* UNESCO: Paris, France. <https://discovery.ucl.ac.uk/id/eprint/10195257/>
- Babbie, E. R. (2020). *The practice of social research*. Cengage Au. <https://books.google.co.id/books?id=IFvjDwAAQBAJ>
- Badiuzzaman, M. (2024). *The Digital Divide Among Families of Children with Disabilities in Technology-Integrated Family-School Partnerships in*

- Bangladesh. University of New South Wales (Australia). <https://doi.org/10.26191/unsworks/30670>
- Büchi, M. (2021). *Book Review: The digital divide*. Sage Publications Sage UK: London, England. <https://doi.org/10.1177/1461444821999818>
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications. <https://books.google.co.id/books?id=335ZDwAAQBAJ>
- Cumming, T. M., & Rose, M. C. (2022). Exploring universal design for learning as an accessibility tool in higher education: A review of the current literature. *The Australian Educational Researcher*, 49(5), 1025–1043. <https://doi.org/10.1007/s13384-021-00471-7>
- Ellis, K., Pitman, T., Kent, M., Mancini, V., & McRae, L. (2021). Mainstreaming accessible digital technologies in higher education: A human rights approach to disability inclusion. In *Activating Cultural and Social Change* (pp. 227–240). Routledge. <https://doi.org/10.4324/9781003042488-16>
- Fernández-Batanero, J. M., Montenegro-Rueda, M., Fernández-Cerero, J., & García-Martínez, I. (2022). Assistive technology for the inclusion of students with disabilities: A systematic review. *Educational Technology Research and Development*, 70(5), 1911–1930. <https://doi.org/10.1007/s11423-022-10127-7>
- Global Education Monitoring (GEM) Report 2020 | UNESCO*. (n.d.). Retrieved April 12, 2026, from <https://www.unesco.org/en/gem-report/report/2020/inclusion>
- Karageorgou, E., Adam, S., Doukakis, S., & Vlamos, P. (2024). Digital Accessibility for Students with Disabilities and Inclusive Learning in Education. In *International Genomics, Neuroscience, Therapeutics and Data Innovation Summit* (pp. 417–424). Springer. https://doi.org/10.1007/978-3-032-03402-1_44
- Kearney, M., Schuck, S., & Burden, K. (2022). Digital pedagogies for future school education: Promoting inclusion. *Irish Educational Studies*, 41(1), 117–133. <https://doi.org/10.1080/03323315.2021.2024446>
- Kioupi, V., Nawire, A. W., Musungu, S., Nzuve, F., & Giannopoulos, G. (2023). Policy and Practice on Inclusive Higher Education in the UK and Kenya: A Theoretical Framework and Recommendations. *Sustainability*, 15(18), 13540. <https://doi.org/10.3390/su151813540>
- Klinksiek, I. D. (2024). Bridging the gap between diversity, equity and inclusion policy and practice: The case of disability. *Transfer: European Review of Labour and Research*, 30(2), 207–223. <https://doi.org/10.1177/10242589241251698>
- Kulal, A., N, A., Dinesh, S., Bhat, D. C., & Girish, A. (2024). Evaluating the promise and pitfalls of India's National Education Policy 2020: Insights from the

- perspectives of students, teachers, and experts. *Sage Open*, 14(4), <https://doi.org/10.1177/21582440241279367>
- Kumar, R. (2018). *Research Methodology: A Step-by-Step Guide for Beginners*. SAGE Publications. <https://books.google.co.id/books?id=J2J7DwAAQBAJ>
- Lin, C. (2024). *Embracing the Difference: Inclusive Design as an Opportunity for Children With Disabilities in the Toy Industry*. Pratt Institute. <https://www.proquest.com/openview/bacdf46fe47fa9c81bf8377288e39bcc>
- Mertens, D. M. (2023). *Mixed methods research: Research methods*. Bloomsbury Publishing. <https://books.google.co.id/books?id=CT6sEAAAQBAJ>
- Ministry of Education India. (2020). *National Education Policy 2020*. Government of India. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English.pdf
- Nath, A., & Batra, R. (2025). The capabilities approach to education of disabled children: Reimagining policy framework for inclusive education in India. *International Journal of Inclusive Education*, 1–20. <https://doi.org/10.1080/13603116.2025.2529450>
- Okoye, K., Hussein, H., Arrona-Palacios, A., Quintero, H. N., Ortega, L. O. P., Sanchez, A. L., Ortiz, E. A., Escamilla, J., & Hosseini, S. (2023). Impact of digital technologies upon teaching and learning in higher education in Latin America: An outlook on the reach, barriers, and bottlenecks. *Education and Information Technologies*, 28(2), 2291–2360. <https://doi.org/10.1007/S10639-022-11214-1>
- Pallant, J. (2020). *SPSS Survival Manual: A step by step guide to data analysis using IBM SPSS* (7th ed.). Routledge. <https://doi.org/10.4324/9781003117452>
- Praveen, R. V. S., Mutya, B., Manikonda, L., Khan, M. A., Haralayya, B., & Chinthamu, N. (2024). Challenge and Impact of National Education Policy 2020 on Higher Education Systems. *European Economic Letters*, 14(4). <https://doi.org/10.52783/eel.v14i4.2127>
- Purushottam Ashtikar, S., & Manoharan, G. (2025). Reconceptualizing Higher Education: Challenges of Inclusive Teaching Methods and Digital Innovation in the New Normal. *EthAlca: Journal of Ethics, AI and Critical Analysis*, (4), 410. <https://doi.org/10.56294/ai2025410>
- Selwyn, N. (2021). Ed-Tech Within Limits: Anticipating educational technology in times of environmental crisis. *E-Learning and Digital Media*, 18(5), 496–510. <https://doi.org/10.1177/20427530211022951>
- Sharma, U., & Sokal, L. (2015). The impact of a teacher education course on pre-service teachers' beliefs about inclusion: An international comparison.

Journal of Research in Special Educational Needs, 15(4), 276–284.
<https://doi.org/10.1111/1471-3802.12043>

Siddiqui, F., Varghese, D., Singh, P., Bayyavarapu, S. B., Lindsay, S., Chandrasekara, D., Kulkarni, P., Wu, L., Alshehri, T., & Olivier, P. (2023). Exploring the digital support needs of caregivers of people with serious mental illness. *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems*, 1–16.
<https://doi.org/10.1145/3544548.3580674>

Sowell, J. (2023). Making Learning Inclusive in Digital Learning Environments. *English Teaching Forum*, 61(1), 2–13. [EJ1373510](https://doi.org/10.1111/etf.12345)

Verma, A. K., & Kumari, A. (2025). Transformative Potential of NEP 2020: A Comprehensive Analysis of its Impact on School Education, the Right to Education, and Social Work Profession. *Research Reinforcement*.
<http://researchreinforcement.in/>

Yıldız, G., Şahin, F., Doğan, E., & Okur, M. R. (2022). Influential factors on e-learning adoption of university students with disability: Effects of type of disability. *British Journal of Educational Technology*, 53(6), 2029–2049.
<https://doi.org/10.1111/bjet.13235>