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5. Education in India

At the Crossroads

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INTRODUCTION

Since India became independent from Britain in 1947, policymakers have been cognizant of the importance of education in building a modern and independent nation-state to ensure the economic, social, and psychological well-being of its citizens and allow them to fulfill their potential and capabilities.

Research over the last few decades has corroborated this conviction of policymakers. At the individual level, schooling raises earnings and improves labor market trajectories.¹ At the macro level, evidence shows that education contributes to growth through the accumulation of human capital, though the relationship is conditional: Additional years of schooling do not automatically translate into productivity unless systems convert schooling into skills.² Cross-national patterns reinforce this point. Countries that have improved the quality of learning tend to achieve higher incomes; middle-income countries typically lag behind their Organisation for Economic Co-Operation and Development peers on both metrics.³ The implication is straightforward: More schooling is necessary but insufficient; hence, the focus must be on what and how students learn.

Against this backdrop, *quality education as of 2025* can be understood as learning that equips students with durable competencies for a technology-intensive economy and a complex, democratic society. The rapid diffusion of artificial intelligence and related technologies makes higher-order capabilities—critical thinking, analytic reasoning, communication, and socioemotional skills—foundational rather than optional. However, these capabilities cannot substitute for the basics. Foundational literacy and numeracy must remain the keystone because they enable all subsequent learning and labor market access. Quality, therefore, implies not simply the ability to read and do sums, but the ability to apply these skills to unfamiliar contexts.

Translating this concept into reality implies a significant role for the state. Education generates neighborhood effects: One child's learning benefits peers, workplaces, and communities in ways that private decision makers do not fully internalize.⁴ It also produces positive externalities at scale—that is, a more educated citizenry supports social stability, informed democratic participation, and shared civic norms. These characteristics of basic education justify public financing, regulation, and mandates to ensure that children enroll

and remain in school long enough to acquire foundational competencies. Moreover, coordination failures are endemic in education markets: Families cannot directly observe instructional quality, schools have multiyear production functions with delayed outcomes, and the benefits of early investments accrue partly to later institutions and employers. A capable state is uniquely positioned to solve these problems through standards, information, and sustained investment.

The task, however, is not merely to spend more; it is to spend well and steer effectively. First, governments must finance and maintain core inputs at scale: adequate school infrastructure, learning materials, and reliable staffing. This includes sustained investments in teacher preparation and continuous professional development.

Second, governments need to secure access for those most likely to be excluded through transportation, disability-friendly facilities, targeted scholarships, hostel provisions where relevant, and incentives that offset opportunity costs. Instruments such as midday meals and public information campaigns about the private and social returns of schooling complement these efforts by improving attendance and retention.

Third, direction setting is a public responsibility. Governments articulate curricular standards, assessment frameworks, and qualification pathways; they publish policy documents that clarify goals and align the actions of multiple stakeholders; and they monitor performance with transparent indicators. This steering role includes building credible institutions for large-scale assessments of learning, audits of school conditions, and teacher workforce data.

Fourth, the state must coordinate and crowd in private initiatives. A clear, stable regulatory environment encourages philanthropic and commercial investment in teacher education, educational technology, vocational pathways, and research,

while quality assurance protects learners from predatory or ineffective offerings. Public-private partnerships can expand options for learners, particularly in technical and vocational streams, but they require guardrails to safeguard equity and learning outcomes.

Fifth, governments nurture talent pipelines that connect schooling to the wider economy and society.

Finally, in the sophisticated contemporary knowledge economy that is being rapidly transformed by changes in technology, the state needs to facilitate higher education for a significant proportion of its citizens. Whether it be in manufacturing, services, or even agriculture, advanced technological and managerial capabilities are critical for growth and competitiveness. While higher education may be considered a merit good, the progress of society and the country requires high standards in higher education, and therefore the state has a role to play in supporting provision and regulation in this arena.

Today, India's goals for education are closely intertwined with its larger economic and strategic objectives. India sees itself as a civilizational state, and there is widespread belief that were it not for external invasions and extended colonial rule, the country would today be among the advanced countries of the world economically, technologically, and otherwise. Several programs launched by the current government such as Make in India (announced in 2014, this aims to encourage manufacturing in India and attract both domestic and foreign investment, with the goal of making India a global manufacturing hub), Atmanirbhar Bharat (announced in 2020 during the COVID-19 pandemic, this aims to encourage self-reliance for all critical goods and services required by the country), and Viksit Bharat (first mentioned on Independence Day 2020 but elaborated further in 2023 and later years, this relates to India becoming a developed nation by 2047) are intended to leverage India's *demographic dividend* to accelerate the process

of India attaining what is often referred to as its “rightful place in the world.”

Robust education systems are critical to realize and sustain these ambitions, but they also create an unprecedented opportunity to reimagine Indian education itself. For too long, India’s education system has been criticized as designed to produce clerks for a colonial machine; the challenge now is to build self-confident, creative, and purposeful individuals who can drive innovation, solve problems, and contribute to the making of an advanced modern nation-state.

HISTORY OF EDUCATION POLICY IN INDIA

Independent India’s education policy has evolved through successive waves of planning, review, and reform, each shaped by the country’s political economy and by changing views about what schooling ought to accomplish. The earliest articulation came with the establishment of the Planning Commission, which framed education both as an instrument for industrial development and as a constitutional commitment toward universal elementary provision. The First Five Year Plan earmarked Rs. 1.23 billion for education, with Rs. 320 million to be provided by the center and made explicit the fiscal constraint under which the Union operated in the early 1950s: For the immediate future, the central government could not assume substantial additional responsibilities, and states would need to mobilize any extra resources required.⁵ The plan’s programmatic emphasis aligned with the prevailing economic and industrial strategy. It prioritized vocational training to supply skilled labor for an economy seeking rapid industrial growth. The same document affirmed the principle of “free and compulsory education until the age of 14” (which was a directive principle in India’s Constitution adopted in 1950), though the target date to implement the principle was deferred to 1961, acknowledging

implementation challenges in access and finance.⁶ Its diagnostic language was strikingly candid about educational quality at the time, noting that “a large proportion of students fails to develop the necessary spirit of inquiry, balanced judgement, habit of application, and capacity for striking out new paths.”⁷ In other words, from the outset, official policy recognized that expansion without attention to the character of learning would not suffice.

On the higher-education side, in the 1950s and 1960s, as India built its core industrial infrastructure, the country invested scarce resources in creating a network of high-quality technical schools—regional engineering colleges (now called National Institutes of Technology) and Indian Institutes of Technology. Starting in the early 1960s, these were complemented by Indian Institutes of Management to provide high-quality managerial capabilities.

By the mid-1960s, as the system expanded and diversified, the need for a comprehensive review of the education system became evident. The Kothari Commission (1964–66) was tasked with conducting the first holistic assessment of education in independent India, building on two earlier, narrower exercises: the University Education Commission (1948–49) and the Secondary Education Commission.⁸ The Kothari Commission’s diagnosis ranged across teacher education, working conditions for teachers, enrollment levels, and access, with explicit attention to the needs of students with disabilities.

The next major pivot came two decades later with the National Education Policy (NEP) of 1986. While grounded in the 1968 policy framework, the 1986 document expanded the scope of reform in three notable directions. First, it emphasized early childhood care and education. It proposed a set of mutually reinforcing measures: establishing Anganwadi (preschool) training centers, integrating health and nutrition into preprimary provision,

revising pedagogical approaches in preprimary settings, creating day care facilities, and ensuring high levels of training for the personnel who manage preprimary institutions.⁹ The logic was developmental as much as educational: Without attention to early nutrition, stimulation, and care, later schooling would be undermined.

Second, the 1986 policy advanced decentralization as a core principle of system governance. It recognized that educational conditions vary across India and therefore argued for the devolution of planning and management to levels where contextual information is richest.

Third, the policy attempted to broaden university pathways through open and distance education and to reconfigure rural higher education. It proposed the expansion of open universities and distance-learning systems, with the Indira Gandhi National Open University envisioned as a major provider of diploma courses in management and other fields. The policy also emphasized the need for students to move across institutions, with the recognition of prior learning and accumulated credits.¹⁰

The early 2000s saw fresh thinking through a renewed emphasis on universalizing elementary education through programmatic and legal instruments that operated in tandem. The Sarva Shiksha Abhiyan (SSA), launched in 2001, was India's flagship program to bring all children into school through a set of discrete but linked policies: opening new schools and alternative schooling facilities, constructing additional classrooms, providing toilets and drinking water, ensuring teacher provisioning, institutionalizing periodic teacher training and academic resource support, and supplying textbooks to bolster learning.¹¹ In 2009, sixty-two years after independence, the Right of Children to Free and Compulsory Education Act (RTE) converted the long-standing aspiration of universal elementary education into a justiciable entitlement and a legal obligation for the state. From that point, the SSA was reframed as the

primary intervention instrument for realizing the rights enshrined in RTE.¹²

The RTE Act articulated eight principles to secure access and equity, addressing disparities across disability, gender, and caste and integrating the multiplicity of public and recognized private providers into a common system with defined obligations.¹³ The act also set out infrastructure norms that schools were required to meet: all-weather buildings, separate toilets for boys and girls, safe drinking water within the premises, functional libraries, boundary walls, and playgrounds.

In summary, the early 1950s established the fiscal and institutional division of labor: broad national objectives with states bearing the brunt of execution and resource mobilization.¹⁴ The Kothari Commission's holistic review signaled a maturation of the policy discourse. The NEP of 1986 then reoriented attention both backward (toward the earliest years of child development) and forward (toward flexible and accessible higher education) with decentralization providing the connective tissue for implementation.¹⁵ Finally, the SSA and RTE together transformed a programmatic ambition into a rights-based obligation, clarifying standards and shifting the policy conversation from "how to get children into school" to "what children learn once inside."

STATE OF EDUCATION PRIOR TO THE NEP

As of 2020, India's school education system had expanded in scope and reach but continued to face structural constraints in quality, equity, and system management. The quantitative picture, drawn from administrative and survey data available up to 2019–20, shows clear progress on participation and basic facilities alongside persistent deficits in digital infrastructure, inclusive access for children with disabilities, and learning outcomes. For clarity, we look at five parameters for

elementary- and secondary-level education: enrollment, infrastructure, public expenditure, pupil-teacher ratios, and learning outcomes and then consider two cross-cutting qualitative dimensions that shaped how the system functioned just before the NEP 2020: the curriculum regime and the state of digitization and data use. At the higher education level, we explore enrollment statistics across genders and social categories.

Gross enrollment ratio (GER) is the standard participation metric used in education policy, defined as total enrollment in a given stage of education, irrespective of age, and expressed as a percentage of the official age-group population for that stage. By construction, a GER above 100 percent indicates the presence of over-age or under-age students in that level because of late entry, early entry, or repetition. Conversely, a GER trending toward 100 percent suggests that a larger share of students is moving through the system at age-appropriate grade levels. The source for the enrollment trends cited here include the Unified District Information System for Education (UDISE) launched in 2012-13.¹⁶

Between 2012-13 and 2019-20, primary-level GER (classes 1-5) remained above parity but moved steadily toward 100. This shift is consistent with improved age-grade alignment: fewer over-age students occupying primary grades and a system gradually correcting for late entry and repetition. Overall, the efforts of SSA and RTE had succeeded in getting almost all students into primary school.

At the upper primary level (classes 6-8), GER increased from the mid-80s to roughly 90 by 2019-20, again trending toward 100.¹⁷

At the secondary (classes 9-10) and higher-secondary (classes 11-12) stages, patterns diverged from the primary picture. Secondary GER rose from about 70 to 75 by 2019-20, with a somewhat sharper increase among boys than girls. Higher-secondary GER increased from roughly 45 to about

50 over the same period, again with gains more pronounced for boys. The stepped decline in GER from primary to upper primary to secondary and then to higher secondary points to a familiar retention challenge, especially acute for girls in rural and disadvantaged contexts: The further one moves up the grade ladder, the more likely enrollment gaps become. As of 2019-20, India had not yet closed these gaps, though upward trends at the higher stages indicated slow progress.¹⁸

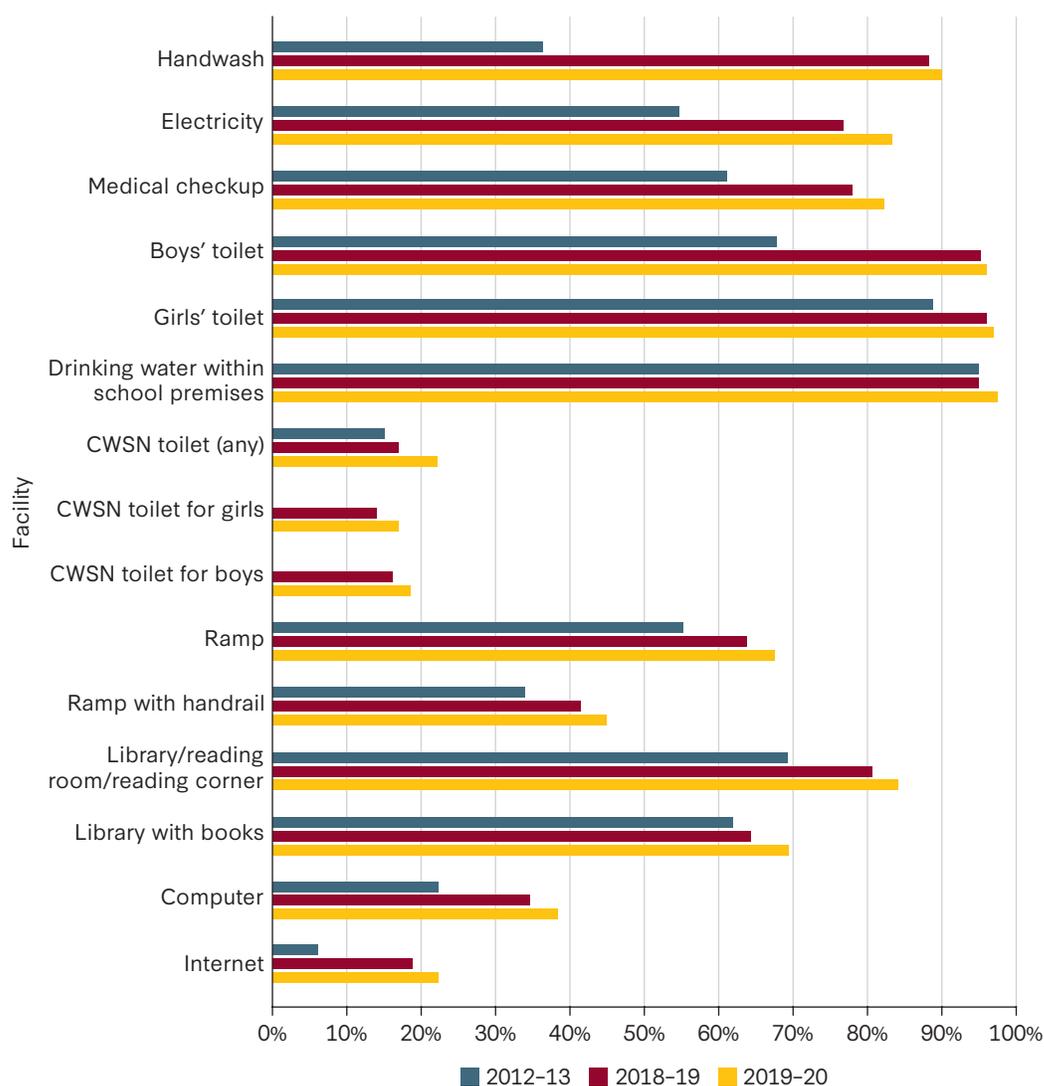
Infrastructure conditions (figure 5.1) had improved markedly over the previous decade, particularly for basic hygiene and essential services such as handwashing facilities, access to electricity, toilets, and drinking water. These changes reflect sustained investment in school amenities and a policy emphasis on conditions that support enrollment, retention, and basic health and dignity in school settings.¹⁹

Yet the same period revealed significant deficits in facilities that matter for contemporary learning and inclusion. Only about 40 percent of schools had computers as of 2019-20, and roughly a quarter had internet access. Both indicators rose compared to 2012-13 but to modest levels given the centrality of digital tools to pedagogy, school management, and resilience (as subsequent events would underscore). The weakest performance was in infrastructure for children with special needs.

The Government of India's Public Expenditure on Education series shows that total public spending on education (center plus states/Union Territories) rose gradually as a share of GDP over the long run, from roughly 3.3 percent in 2005-06 to about 4.5 percent by 2019-20, with notable oscillations in between. State and Union Territory governments consistently accounted for the larger share, while central expenditure ranged from roughly 0.7 to 1.1 percent of GDP across these years.²⁰

Internationally, a common benchmark used by educationists is public education expenditure in

FIGURE 5.1 Percentage of schools with specified infrastructure facilities, 2012-13, 2018-19, and 2019-20



Note: CWSN = children with special needs

Source: Ministry of Education, Department of School Education and Literacy, Government of India, "Unified District Information System for Education Plus (UDISE+) 2019-20," 2021, 17. https://www.education.gov.in/sites/upload_files/mhrd/files/statistics-new/udise_201920.pdf.

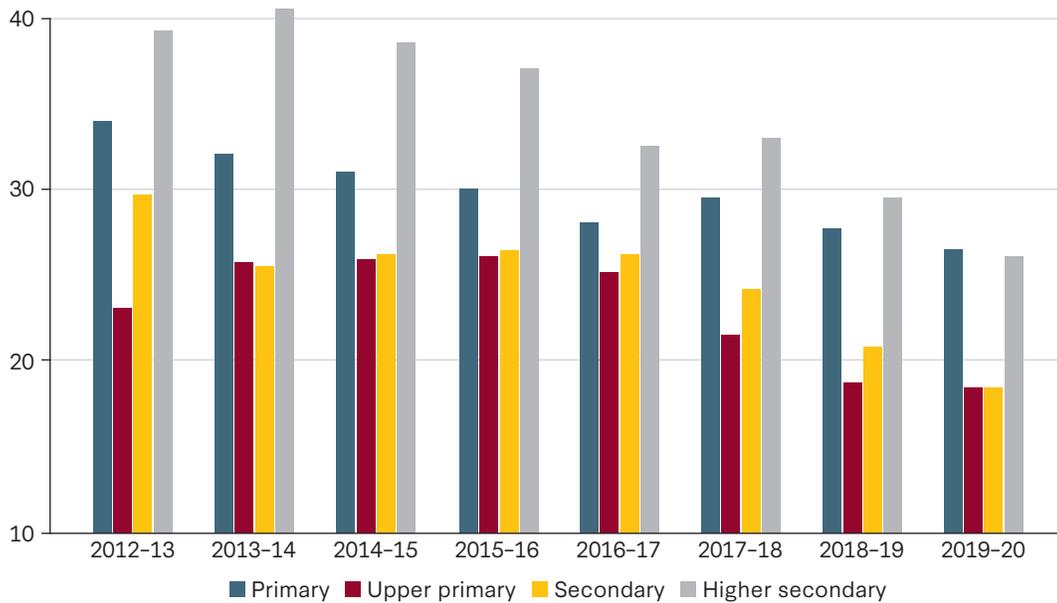
the range of 4-6 percent of GDP. India's public expenditure on education was comparable to that of Thailand and Vietnam but still below the long-standing 6 percent aspiration.²¹

In 2019-20, half of the total public expenditure on education was directed to elementary education, reflecting the system's focus since 1986 on universalizing access. Secondary education accounted for 32 percent, while university and

higher education received 12 percent. Technical education amounted to 5 percent.²²

Teacher availability improved over the decade, as measured by the pupil-teacher ratio (PTR). Between 2012-13 and 2019-20, the primary PTR improved by roughly 22 percent (see figure 5.2). Upper primary improved by about 20 percent. The average PTR figures compare favorably with formal norms: 30:1 at the primary level and 35:1

FIGURE 5.2 Pupil-teacher ratio by level of schooling, 2012-13 to 2019-20



Source: Ministry of Education, Department of School Education and Literacy Government of India, “Unified District Information System for Education Plus (UDISE+) 2019-20,” 2021, 21. https://www.education.gov.in/sites/upload_files/mhrd/files/statistics-new/udise_201920.pdf.

at the upper primary under the Right to Education schedule and 30:1 at the secondary level under the Rashtriya Madhyamik Shiksha Abhiyan framework.²³ The secondary PTR showed an improvement of approximately 38 percent. The higher-secondary PTR improved from 39:1 to 26:1.

However, as of 2019-20 these headline ratios obscured granular realities. Teacher deployment remained uneven, vacancies persisted in hard-to-staff locations and subjects, and reports of absenteeism meant that “effective” PTRs experienced by students could be substantially worse than the administrative averages. These gaps help explain why improvements in staffing ratios did not translate easily into gains in learning outcomes.

Learning outcomes, as reflected in the National Achievement Survey (NAS) 2017—the most recent national assessment available—revealed the central quality challenge. NAS 2017 shows that in the primary years, language and mathematics display a compressed distribution around the basics,

with only about half of class 3 children reaching “proficient or advanced” levels, and little movement by class 5. Environmental studies performs somewhat better in the primary grades, but the improvement is marginal rather than transformative and does not carry over into a broad shift of the distribution. The compression deepens in higher grades: In class 8 language and mathematics, roughly three in five students cluster at or below “basic.” Science stands out only in relative terms: its “proficient+advanced” share is the highest among the class 8 subjects, and its “advanced” band is noticeably thicker than in language and math, yet even here more than half of students remain in the lower two categories. Social science performs weakest, with the largest accumulation in “basic” and a narrow upper tail.

Two qualitative features of India’s pre-NEP education landscape help explain the disconnect between expanded inputs and learning outcomes. The first is the curriculum regime that governs textbooks, pedagogy, and assessment.

The Yashpal Committee's 1993 report, *Learning Without Burden*, argued for decongesting the curriculum and aligning classroom practices with how children actually learn. Though a National Curriculum Framework sought to address these issues, as of 2019–20 its implementation was uneven. In many boards and states, knowledge remained textbook bound; evaluations continued to reward recall over application, and examination systems retained a high-stakes, end-of-year format that narrowed pedagogy to test preparation.

A second recurring theme in policy discourse concerns the cultural content of schooling, specifically the balance between “social and national integration.” The Kothari Commission underscored national integration as a curricular objective in the 1960s, and the NEP 1986 devoted a section of its report to “the cultural perspective,” seeking to root schooling in India’s plural traditions while promoting common civic values.²⁴ As of 2019–20, these aspirations remained contested in practice.²⁵ Conflicts periodically arose over the relative proportion of regional versus national content. While these accounts fall outside the assessment window of the state of Indian education, they illustrate some broader pre-NEP patterns: those related to the curricular coherence and cultural representation that eventually laid the foundation of the NEP itself.

Digitization and data use formed the other dimension shaping system performance. On the one hand, India possessed a powerful administrative data backbone in UDISE, NAS, and other measurement institutions capable of generating annual, school, and university-level statistics on enrollment, infrastructure, staffing, and select outcomes. On the other hand, the system lacked a comprehensive, user-friendly dashboard that could routinely be used by policymakers, district officials, school leaders, teachers, and researchers to triangulate trends and inform decisions. Despite decades of policy emphasis

on decentralization since the NEP 1986, effective local decision making was constrained by limited capacity and restricted autonomy.

Extending the pre-NEP picture to higher education, the same data-to-decision gap that constrained schools was mirrored in universities and colleges: Information existed in abundance, but system design limited how students could use it to shape their own trajectories. The All-India Survey on Higher Education (AISHE), India’s annual census-style exercise on higher-education institutions launched in 2011, provided a consistent series on capacity and participation that helps trace these patterns.

On the supply side, institutional capacity expanded steadily. As per the All India Survey on Higher Education (AISHE) 2019–20, while the number of colleges as of 2019–20 stood at more than forty thousand, the number of universities was around one thousand, with the number of state private universities growing at a rapid pace.²⁶ The growth was accompanied by a broadening of the affiliation footprint. This expansion set the stage for rising participation, but it also preserved a heterogeneous structure: Diverse statutes, calendars, and examination regimes made the system large yet not uniformly navigable. On the demand side, as per AISHE 2019–20 total enrollment in higher education increased each year from 2015–16 through 2019–20, moving from 34.5 million to 38.5 million.

Yet, even with this steady increase, India’s GER in higher education remained around 26 percent, which is significantly below that of advanced nations as well as countries that have made significant shifts in recent decades such as China and those in Southeast and East Asia.

Gender patterns added another salient dimension. Using the higher-education GER at the tertiary level (irrespective of age) expressed as a percentage of the eighteen to twenty-three age cohort

reported by AISHE 2019–20, female participation rose consistently across the period. A notable crossover occurred in 2018–19, when female GER edged past male GER.

The quantitative trends also exposed design frictions that mattered for students’ actual choices. As of 2019–20, India lacked a robust and universally accepted national framework to operationalize mobility from one higher-education institution to another through the transfer of credits. Though the 1986 NEP had encouraged multipoint entry and lateral movement, this was not yet in vogue as of 2020.

At the upper end of higher education, by 2020 the networks of high-quality technical schools had grown to comprise twenty-three Indian Institutes of Technology, thirty-one National Institutes of Technology, and twenty Indian Institutes of Management. These are, of course, a small subset of the overall higher-education landscape but represent elite institutions that are designed to act as role models for others. In parallel, over the last two decades a large number of private engineering institutions came into being, with the primary target of creating graduates for India’s large IT services industry. However, employability emerged as a major issue with respect to this latter set of institutions.

In the meantime, in 2016 the Government of India created a National Institutional Ranking Framework (NIRF) to put in place a set of common quality standards across institutions and allow institutions to benchmark themselves against others. The NIRF complements the accreditation framework of the National Assessment and Accreditation Council (NAAC), which was created in 1994.

The same year, the Government of India also created SWAYAM (Study Webs of Active-Learning for Young Aspiring Minds), a national platform for Massively Open Online courses, with the intention of creating a national resource for high-quality online education.

In 2017, India started an ambitious program to identify the ten top public universities and ten top private universities and help these “Institutions of Eminence” ascend global rankings through financial support and the relaxation of regulatory constraints.²⁷

NATIONAL EDUCATION POLICY 2020

By 2020 participation and infrastructure had improved, but learning outcomes, teacher support, credit portability in higher education, and data-to-decision linkages remained uneven. Simultaneously, the wider economy had become more technology intensive, demanding competencies such as conceptual understanding, problem-solving, collaboration, and digital fluency, which were not cultivated by the curricula and assessments of the time. There was a need, therefore, not merely to add programs but to realign the system’s objectives and instruments with contemporary realities and with the constitutional commitment to equitable opportunity.

Within this frame, the NEP 2020 articulated a set of objectives that organized reform across stages and subsystems. First, it sought to guarantee universal, equitable foundations: All children should achieve foundational literacy and numeracy early, and equity and inclusion would be treated as non-negotiable constraints rather than just measurable indicators. Second, it aimed to create flexible, multidisciplinary learning pathways by diluting rigid separations among academic and vocational streams, arts and sciences, and curricular and cocurricular domains. Third, it proposed a shift away from rote learning and exam-driven instruction toward competency-based learning and assessment, with regular formative assessment for learning and summative assessments designed to measure application and higher-order skills. Fourth, it emphasized professionalizing teaching and strengthening

institutional governance through meritocratic recruitment, continuous professional development, and supportive work environments. Fifth, it sought to leverage technology and data to expand access and inclusion, treating digital platforms as vehicles for content, teacher development, and system management. Sixth, it affirmed education's public purpose, embedding cultural rootedness and adequate financing within a modern, globally engaged curriculum and encouraging community participation alongside a strong public system.²⁸

Turning these aims into practice, the policy's implementation architecture prioritized early learning, research capacity, equity in higher education, and the integration of vocational education. On foundational literacy and numeracy, the National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat) made the objective operational by specifying what children should be able to do and by assigning responsibilities across administrative tiers. The initiative's end-line vision is that by 2026–27, every child should be able to read with comprehension, write, perform basic mathematical operations, and demonstrate core life skills. To discipline progress, grade-wise targets were articulated. For instance, target objectives of the Foundational Literacy and Numeracy (FLN) completion of grade 3 (age eight to nine years) include reading with meaning at a minimum of sixty words per minute, reading and writing numbers up to 9,999, and solving simple multiplication problems.²⁹ Implementation responsibilities were distributed deliberately. At the center the tasks include framing annual national targets and developing or maintaining digital platforms, such as Digital Infrastructure for Knowledge Sharing (DIKSHA) for e-content and National Initiative for School Heads' and Teachers' Holistic Advancement (NISHTHA); states are expected to contextualize annual FLN targets using evidence from the NAS, cascade plans across districts and blocks, and adapt materials; local bodies are tasked with ensuring full enrollment and preventing dropout, conducting baseline analyses, and

maintaining school-wise status tracking.³⁰ The logic is to align a measurable goal, a clear theory of change, and a chain of accountability that runs from national standards to classroom practice.

The emphasis on digital infrastructure in support of these aims is reflected in the use of DIKSHA and NISHTHA as system-wide platforms rather than discrete projects. DIKSHA aggregates curriculum-aligned e-content, including videos, practice items, and question banks so that teachers and students can access materials irrespective of geography, making content distribution less dependent on physical supply chains. NISHTHA provides a structured channel for teacher training, allowing states to deploy context-specific modules while retaining a common scaffold for competencies and progression.³¹ Together, they exemplify the policy's attempt to convert technology into digital public goods that lower the marginal cost of quality materials and professional learning. Complementing these efforts at the higher-education level, the SWAYAM platform offers university-level online courses whose credits can be counted toward degrees.³²

The PM SHRI (Pradhan Mantri Schools for Rising India) initiative adds an institutional demonstration effect at the school level. The program proposes to develop 14,500 government schools as exemplars of NEP-aligned practice, managed by central and state governments and including Kendriya Vidyalayas and Jawahar Navodaya Vidyalayas.³³ The design uses schools with robust infrastructure as a policy instrument to compress the distance between policy text and classroom practice and to generate operational templates that lower adoption costs for other government and low-fee private schools.

Reflecting a belief in India's rich cultural and intellectual heritage and the need to treasure, understand, and absorb this ethos, India's NEP of 2020 underlines the importance of both a contemporary research-driven education system and a strong

foundation in traditional Indian knowledge systems. Education and skills are seen as closely complementing each other. Entrepreneurship is placed on a high pedestal as essential not only to solving key problems but leading to the creation of jobs.

Reflecting this, in higher education the NEP 2020 identifies the need to develop thoughtful, well-rounded individuals with holistic and critical-thinking skills.³⁴ The NEP has recommended the creation of multidisciplinary programs at the undergraduate level and encourages the evolution of single discipline-focused institutions into multidisciplinary ones. Collaboration between institutions is seen as one of the ways to enhance multidisciplinary and interdisciplinary learning.

The NEP 2020 promotes flexibility through choice-based credit systems, multiple entry and exit pathways to degree programs, and transfer of credits through an Academic Bank of Credits (ABC). To facilitate an ABC, it envisages every learner having a unique ID and the ABC as a digital repository of credits mapping the credits to this ID.

The NEP 2020 envisages multiskilling and inter/cross-sectoral skilling and a unified credit framework to enable credit transfer and integration across academic and vocational streams. In academic programs, students should be able to earn credits by doing internships, apprenticeships, and industry projects. Industry-academia linkages are intended to be strengthened by creating positions for professors of practice and adjunct faculty and formalization of credits for industry projects, and such initiatives along with curriculum reform and a focus on skilling are expected to reduce the employability gap.

To enhance access and increase GER, NEP underlines the importance of online learning, online degrees, and the utilization of online credits toward degrees. It also advocates the offering of higher education programs (including technical disciplines) in local languages. All institutions are

expected to enhance their accessibility to students with disability.

Quality is to be enhanced by improving and sharpening accreditation systems, national teacher training programs, and an objective and transparent ranking framework that promotes continuous improvement. There is a focus on “light yet tight” governance standards to ensure transparency and quality. NEP 2020 encourages Indian institutions to aspire to international quality standards and participate in global rankings.

A strong emphasis is placed on the Indian Knowledge Systems to enable students to appreciate and imbibe the rich knowledge heritage of India and build on this foundation toward future breakthroughs. Entrepreneurship is to be encouraged by courses and projects in the curriculum as well as support for student entrepreneurial ventures through incubation centers. NEP 2020 encourages collaboration with international institutions and advocates openness to high-quality foreign universities to establish campuses and programs in India, obviating the need for Indian students to study abroad.

On research, the National Research Foundation, later legislated as the Anusandhan National Research Foundation (ANRF) with the Science and Engineering Research Board (SERB) subsumed, was envisaged as the institutional locus for catalyzing peer-reviewed research across disciplines and for serving as a liaison between researchers and different levels of government.³⁵ The stated ambition is to formalize research as a core function of universities and to widen the funding aperture beyond a small set of elite institutions. The structural choice to build on SERB’s administrative platform, while pragmatic, did raise some concerns about the availability of adequate funding for the humanities and social sciences.

A third pillar concerns vocational education. While at the macroeconomic level better matching

between skills supply and sectoral demand can reduce structural unemployment by easing transitions into productive roles, at the individual level vocational pathways offer near-term opportunities for learners, especially from disadvantaged backgrounds. As of 2019–20, however, vocational courses offered in grades 11 and 12 were typically not treated as academically equivalent for the purposes of admission to colleges and universities, limiting the permeability of pathways. The policy response uses the National Skills Qualification Framework (NSQF) to establish equivalence and to create a common language of levels that can be recognized across schools, Higher Educational Institutions (HEIs), and training providers. Meaningful integration will hinge on whether HEIs routinely recognize NSQF-aligned credits for admission and progression.

To gauge early outcomes under NEP 2020, three indicators are examined: school infrastructure and service delivery, enrollment through GER, and basic learning. Data for infrastructure and learning come from ASER (*Annual Status of Education Report*), India's large, rural household survey run by Pratham, an education-based nonprofit since 2005 that tracks whether children can read simple text and do basic arithmetic. Enrollment (GER) is taken from UDISE for 2019–20 and 2023–24.

ASER 2024 reflects improvements in infrastructure and school services across the board: midday meals, drinking water availability, and toilet functionality. There has been a significant 85 percent increase in the proportion of schools with safe and usable toilets for girls.³⁶

While library availability and use and electricity availability show visible improvement with regard to digital access, the nonavailability of computers in schools remains a concern, with only 11 percent of surveyed schools possessing any number of computers at all. Enrollment changes are tracked through GER as reported by UDISE+. Between 2019–20 and 2023–24, primary GER (classes 1–5) moved from above 100 to way below

100 (93.0), with boys falling to 91.8 and girls, 94.3. Upper-primary GER (classes 6–8), interestingly, has also decreased from 94.7 to 89.7, with girls' GER marginally falling (4.3 pp) compared to boys (5.6 pp). A similar pattern can be noticed in secondary and higher-secondary GER values as well, with a marginal decrease in total GER figures and with boys having a larger pp decrease than girls. With respect to learning outcomes related to reading, ASER rounds indicate marginal changes between 2018 and 2024 but a significant improvement between 2022 and 2024 after a major dip between 2018 and 2022 due to the COVID-19 pandemic.³⁷ Arithmetic indicators show a contrasting trajectory. Across classes 3, 5, and 8, the proportion of students able to perform at least subtraction (used as ASER's metric for arithmetic measurement) has risen significantly between 2018 and 2024, with the sharpest increase observed in class 3. Secondary schools report only marginal gains since 2018. Disaggregated patterns reveal that the largest improvements, in absolute terms, have come from government schools, underscoring where the most pronounced ability shifts have occurred.³⁸

CHALLENGES AS OF 2025

Transition rates across key stages remain uneven. According to UDISE 2023–24, movement from grade 5 to grade 6 (primary to upper primary) stood overall at 88.8 percent; from grade 8 to grade 9 (upper primary to secondary), at 83.3 percent; and from grade 10 to grade 11 (secondary to higher secondary), only 71.5 percent. Gender-wise, girls generally have a higher transition rate than boys, most pronounced in the secondary to higher-secondary school level.

Reports from rural classrooms documented persistent instructional constraints. Teachers were required to spend significant time on data collection and portal entry, activities only loosely tied to lesson planning and the day's teaching.

Teaching-learning materials were often preserved to meet audit requirements; kits remained intact and underused rather than being routinely distributed, manipulated, or taken home by students.³⁹

In higher education, the advent of new technologies like artificial intelligence (AI) has further complicated the education landscape. With widespread predictions that the advent of AI will make many jobs obsolete, employment opportunities are likely to come under further pressure. Graduates will need to be AI savvy in order to use the latest tools adopted by industry. Applying AI to different uses is expected to provide a new opportunity for employment. Existing education programs will need to adapt quickly to impart the knowledge and skills required in this new landscape.

India's quest to be *atmanirbhar* (self-reliant) and reach the status of Viksit Bharat (Developed India) will undoubtedly need advanced creative problem-solving and innovation skills. While India has in recent years demonstrated significant progress on the Global Innovation Index (from rank number 81 in 2015 to 39 in 2024), its rank has plateaued in the last three years.⁴⁰ One parameter in which India is handicapped is its lack of world-class universities. India's top universities rank number 150–200 among institutions. While the number of Indian institutions in the top two hundred institutions has increased since its inception, the Institutions of Eminence (IOE) program has not succeeded so far in its primary objective of facilitating Indian institutions' entry into the top one hundred.

While both the NIRF and NAAC were initially lauded for enacting national quality standards, in recent years criticism has increased regarding the role played by perception scores and publication, which have led to fudged data to help undeserving schools improve their NIRF ranking.⁴¹ Corruption in external assessments has allowed some institutions to receive undeserved NAAC scores.⁴² In 2025 the Government of India announced steps

to address these issues by introducing negative scores for paper retractions and a completely data-driven process for NAAC accreditation.⁴³

While efforts have been made to integrate university education with vocational education by putting an integrated national credit framework in place, social mores that place a university degree above vocational courses and slow improvement in the curriculum and relevance of the courses offered by industrial training institutes have gotten in the way of achieving the best results. In parallel, the skill development initiatives of the government under the National Skilling Mission, while expanding the range and number of skills courses, have had limited outcomes in terms of employment, possibly due to poor alignment between supply and demand.

Although the Indian higher-education system has grown rapidly in the last two decades, thousands of Indian students continue to seek higher-education opportunities outside the country. According to recent estimates, around 1.8 million Indian students are studying abroad in 2025, and this number has doubled over the last six years.⁴⁴ The United States, the United Kingdom, Canada, and Australia are the major destinations for foreign higher education. While the cost of such higher education is high, Indian students hope to recover these costs by obtaining employment overseas. However, recent immigration curbs in these countries have dampened the outflow of students in 2025.

Following up on the intent of the NEP 2020, the University Grants Commission has opened the door for global institutions to establish campuses in India. As of mid-2025, Deakin University, the University of Wollongong, and the University of Southampton had begun operations, and a new batch of five more institutions recently received letters of intent. This marks a new phase in higher education in India, though questions about the affordability and accessibility of these options for the average Indian student remain a concern.

A bigger worry is that while more than 1.5 million students graduate with engineering degrees every year, recent reports suggest that only 45 percent of them possess the skills, knowledge, attitude, and values that make them employable.⁴⁵

While public institutions in the states generally offer subsidized programs at affordable fees, there is broad heterogeneity in their quality, and their capacity is inadequate to meet the needs of Indian students. The fastest pace of expansion is taking place in private universities, which generally charge higher fees. While public institutions, including the elite public institutions, follow constitutionally mandated policies to reserve places for students from disadvantaged categories such as Scheduled Castes, Scheduled Tribes, Backward Classes, and Economically Weaker Sections, private institutions currently have no legal mandate to do so. Some political parties have been calling for the extension of reservations to private institutions, and this is expected to be a contested space in the years ahead.

A fraught issue in Indian education is language. While the NEP 2020 stresses the importance of school education in local languages, it also advocates a three-language formula that some states oppose. Some of these states have refused to adopt the NEP 2020 and in turn have been refused SSA grants by the central government.⁴⁶ Given that education is a “Concurrent” subject in India’s Constitution (meaning that both the central and state governments have the power to legislate on this subject), these differences are likely to remain. However, a positive consequence of states’ different approaches is the innovation by and competition between some states that may lead to the possibility of better educational outcomes.

Another contentious issue is textbook content. While the National Council of Education, Research and Training (NCERT) has been revising textbooks in line with the NEP 2020 to reflect “Indian ethos and its civilizational accomplishments,” the new social science texts have been criticized by some

scholars for blurring the distinction between history and mythology and glorifying the past.⁴⁷

One area that has experienced considerable progress in Indian higher education is online learning. Launched in 2017, the national e-learning platform SWAYAM intends to make available high-quality courses to learners across the country. The University Grants Commission has allowed students in Indian universities to use credits obtained from courses on SWAYAM toward their college and university degrees. As of September 2025, around 1,490 courses were being offered on SWAYAM to nearly five million learners.

THE ROAD AHEAD AND CONCLUSION

India’s education system now boasts three assets that can credibly anchor the road ahead. First, participation has expanded at scale with visible equity momentum. This capacity to absorb large cohorts across geographies and management types is itself developmental infrastructure. A system that can reliably accommodate rising aspirations is positioned to convert demographic weight into human-capital depth.

Second, India has institutionalized a measurement-and-platform body. UDISE and AISHE provide annual administrative windows into schools and higher education; ASER supplies an independent, household-based view of foundational learning; and the NEP 2020 makes available layered public digital goods: DIKSHA for content and NISHTHA for teacher development, on top of those datasets. This combination reduces the cost of seeing what is happening and of moving usable materials across jurisdictions. It enables rapid comparison, targeted course correction, and low-marginal-cost replication of practices that work.

Third, policies have executed a durable quality pivot anchored in foundational literacy and

numeracy and competency-based learning. The NEP 2020 converted long-standing aspirations into explicit milestones through NIPUN Bharat with respect to reading with meaning, number sense, and basic operations by grade 3 and reoriented assessment toward application and understanding. ASER 2024's rebound in early-grade reading and arithmetic to decade-high levels indicates movement precisely on the competencies that were prioritized. Because foundational skills compound, improvements here raise the returns for every subsequent year of schooling and to later training, and they align schooling with the forms of reasoning, communication, and problem-solving used in contemporary workplaces.

If India's education story over the next decade is to matter, it will be because participation, infrastructure, and evidence converge on the one condition mentioned at the start of this piece: *More schooling is necessary but insufficient unless it converts into skills*. The expanding, more equitable system provides the scale; digitization and assessment platforms supply the information spine; and the quality turn focuses attention on what students actually do rather than what schools nominally provide. These elements, if sustained, will allow India to tell a development story in which widening enrollment does not simply raise years of schooling but strengthens the foundations upon which higher-order capabilities, mentioned earlier, can be built. These will be essential if the vision of Atmanirbhar and Viksit Bharat is to become a reality.

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