

# "Embedding Sustainable Development Goal (Sdg4s) In Education: Ensure Inclusive And Equitable Quality Education To Promote Lifelong Learning Opportunities Through Government Policies"

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## **Abstract**

Sustainable Development Goal 4 (SDG 4) calls for inclusive, equitable quality education and lifelong learning for all. In India, while notable progress has been made in both policy-related educational access and reform, there remain notable challenges regarding inclusion, learning outcomes, and lifelong education for marginalized populations. This descriptive study investigates how SDG 4 is becoming embedded in India's educational system in relation to inclusion and lifelong learning. The study draws on policy documentation (such as NEP 2020, ULLAS, and Samagra Shiksha) as well as national data and literature. Enablers, gaps, and recommendations for policy and practice are identified, with the findings indicating good institutional policy frameworks in place, emerging programmes and possibilities for inclusion of children with special needs and adult education, and increasing enrolment percentages along with physical infrastructure improvement. There remain significant challenges, however, regarding: continuing inequities in education; uneven learning outcomes related to foundational literacy and numeracy; low adult literacy levels in some states; and concern over some states' inconsistent inclusive practices. The study concludes by providing policy recommendations that could support further embedding SDG 4 across India through interventions for regions that have not yet had education development, improved structures for lifelong learning, improved teacher capacity in inclusive pedagogy, and enhanced monitoring and accountability.

## **Keywords**

*Sustainable Development Goal 4 (SDG4), Inclusive education, Equitable education, Quality education, Lifelong learning*

## **Introduction**

Education is acknowledged worldwide as a bedrock of human development and social justice (Nambissan, 2016). In India, the challenge has always been about not just expanding access to education, but creating education that is inclusive, fair, and leads to valuable learning (and learning outcomes). With the Sustainable Development Goals adopted under the 2030 Agenda for Sustainable Development, India made a commitment to SDG 4: "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all." Embedding SDG 4 in India's education system means transferring policy to practice in diverse contexts and ensuring that no learner is excluded, including in relation to socio-economic, geographic and linguistic contexts (Singh & Martolia, 2024). This paper offers a descriptive analysis of how India has begun to embed the SDG 4 agenda, particularly in relation to inclusion (including children with disability and socio-economically disadvantaged groups) and lifelong learning (adult education, skills and continuing

education), the progress made, the gaps and opportunities and recommendations for a strengthened action plan for 2030.

Education is an essential building block of human growth and development, social justice, and economic well-being, and it is among the most effective tools for sustainable development (Yadava, 2022). With this in mind, the United Nations, through the 2030 Agenda for Sustainable Development, established Sustainable Development Goal 4 (SDG4) to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all." (Sujatha & Reddy, 2017) SDG4 recognizes education is not only a vehicle for knowledge and information; it is also a transformative process which promotes empowerment, reduces inequalities, and provides citizens with the tools they need to tackle a complex set of challenges in a globalized world (Ramtohol, 2024).

Implementing SDG4 in education requires a comprehensive view that goes beyond access to education. It speaks to inclusivity by ensuring that children, youth, and adults, regardless of gender, (dis)ability, socioeconomic status, and geographic location, have equitable opportunities to learn and better themselves. It also stresses equity and quality by emphasizing the need for capable teachers, 21st-century pedagogies, new curricula, and 21st-century technology so that students' learning can remain relevant to the demands they will face in the future (Pal & Sarkar, 2024). The idea of "lifelong learning" that SDG4 promotes reinforces the importance of having education go beyond one's childhood and adolescence and that ongoing preparation of citizens can position them for successful participation of an engaged citizenry in a globalized, interconnected society (Kumar, 2019).

Despite global initiatives to widen access to education, inequalities persist. Millions of children and adults still do not have access to formal learning, and the quality of education is unequal to the point of unrecognition across and between contexts (Mukherjee, Joshi & Thakur, 2022). The COVID-19 pandemic has intensified these challenges, with a disruption to learning globally through the collapse of much of the existing digital infrastructure, inclusive and resilient education systems. These factors underline the need to embed SDG4 at the policy, planning and practice levels urgently. Integrating Sustainable Development Goal 4 (SDG4) into education is vital as education is a key driver of social, economic, and environmental development. SDG4 targets providing inclusive, equitable, and high quality education, and promoting lifelong learning for all (United Nations 2015).

### **Rationale Of The Study**

#### *Promoting Inclusivity and Equity*

Many children and adults around the world do not have access to formal education, mostly due to poverty, gender, their disability, or where they live (UNICEF, 2023). Integrating SDG4 in education sends a potential signal that education systems do not merely accept exclusion and inequality but actively work to remove the barriers to learning and promote even access, and actively empower excluded or marginalized communities (Srivastava, 2018).

#### *Improving Quality of Education*

Access is insufficient on its own, and, ultimately, the quality of education is what matters in terms of educational outcomes, development of skills, and job readiness (Kausik & Hussain, 2023). By embedding SDG4, educators can promote school and curriculum reform and encourage teacher professional learning and student learning and engagement through pedagogies that improve the effectiveness of learning (UNESCO, 2024).

#### *Promoting Lifelong Learning*

Continuing education is essential in the rapidly changing environments of the current and future economy and society. SDG4, for example, promotes lifelong learning opportunities that enable people to adopt new skills and knowledge in a variety of contexts beyond formal education (World Bank, 2022).

#### Aiding in Sustainable Development

SDG4 education provides learners with knowledge, values, and skills needed to contribute to sustainable development such as poverty eradication, environmental sustainability, and social cohesion. Ultimately, quality education supports the achievement of other SDGs (United Nations, 2015).

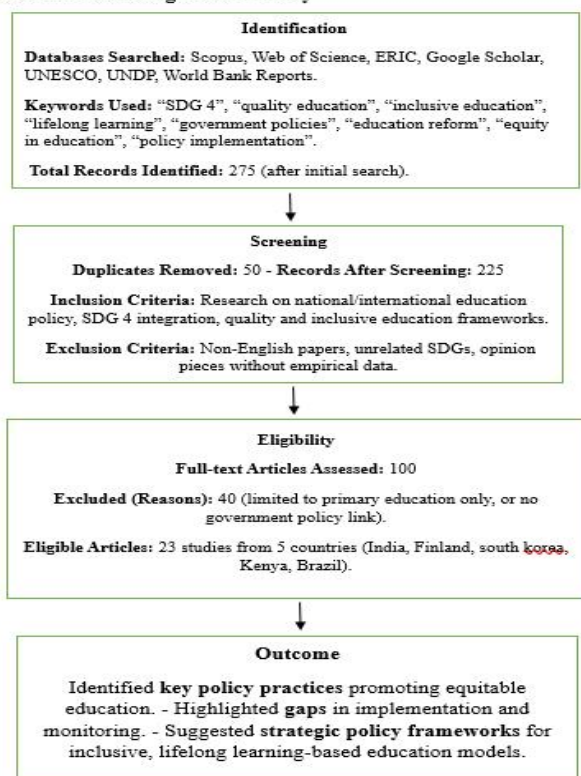
#### Confronting Global Shocks

The global shock of COVID-19 has highlighted the fragility of education systems and increased inequity. Adapting SDG4 as a framework thus builds capacity for educational responses towards resilience, inclusion and adaptation (OECD, 2023).

### Objectives Of The Study

- To understand the core components of SDG4 and its relevance to India
- To explore the strategies and approaches for embedding SDG4 into educational systems.
- To evaluate the role of inclusion and lifelong learning in achieving SDG4.

#### PRISMA Flow Diagram Summary



### CORE COMPONENTS OF SDG4 AND ITS RELEVANCE TO INDIA

Sustainable Development Goal 4 (SDG4), a part of the 2030 Agenda that was adopted by the United Nations in 2015, aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all". It is considered a foundational goal since education is central to achieving almost all other goals, such as poverty reduction, health improvements, and gender equality (Muralidharan & Kremer, 2016).

To understand the elements that encompass SDG4 requires analysis of its targets and indicators, including:

Universal primary and secondary education: To ensure that all girls and boys complete free, equitable and quality primary and secondary education. Early childhood development: Access to quality early childhood care and education and pre-primary education (Reddy & Rani, 2020).

Equal access to affordable vocational and higher education: Access to technical, vocational education, and tertiary education. Skills for work: To promote relevant skills for employment, decent jobs and entrepreneurship (SpringerLink, 2022).

Gender equality and inclusion: To eliminate gender disparity and ensure equal access for vulnerable populations (e.g., children with disabilities; indigenous people).

Literacy and numeracy: To achieve youth and adult literacy.

Safe and inclusive learning environments: To upgrade education facilities to be child-, disability- and gender-sensitive.

Qualified teachers: To increase the supply of trained and qualified teachers.

India's large, diverse, and primarily youthful population puts a cornerstone in the significance of SDG4 around education. The challenges for education are several and align directly with the priorities of SDG4:

Access and equity: India has achieved near-universal primary enrollment, but issues of access to quality education across a spectrum of inequalities remain (primarily for rural, tribal, and marginalized groups).

Learning outcomes: Even India's learning students struggle on basic literacy and numeracy.

Gender disparities: In places across India, girls are hindered from pursuing an education.

Teacher quality: Many schools (especially in rural India) are undertrained and/or short-staffed for any school development to take hold.

Digital divide -- access to technology-based learning is uneven. Many remote and/or underprivileged students experienced issues accessing technology and other resources.

Despite the already mentioned challenges, SDG4 is deeply relevant to the education context in India. Integrating SDG4 into national policies (NEP 2020) and working through programs (for example, Samagra Shiksha, NIPUN Bharat) is an absolutely robust strategy for ensuring that education in India is grounded in the inclusive, equitable, and quality driven ecosystem outlined by SDG4.

*Strategies And Approaches for Embedding SDG4 Into Educational Systems:*

To successfully embed SDG 4 (Quality Education) in their educational systems, countries and institutions must take a comprehensive, strategic approach situated in the specific contexts associated with them. Such approaches will include aligning policies for national education systems, and development plans with the designated targets of SDG4 (PubMed study, 2023) This will require the incorporation of themes focused on inclusive, equitable, and quality education across legislation and other national-level frameworks, including an associated national commitment to universal free, and compulsory primary and secondary schooling.

Embedding SDG 4 will also require curriculum reform. A key part of the process for education systems will be ensuring that curriculum includes themes of education for sustainable development, global citizenship, gender equality, and development of digital

literacy skills, which will prepare learners for the necessary skills for the 21st century(Aggarwal, 2021). These types of reforms and initiatives will generally be coupled with enhanced professional learning and teaching approach, as educators will need some re-tooling to ensure they are applying inclusive pedagogies and methodologies that help learners access equitable opportunities for learning, as well as promoting lifelong learning. Provision of on-going professional development programs and support structures will ensure that educators are never behind on new methods, and inclusive practices(Chandran & Pandey, 2018).

A crucial strategy is further investment in education, particularly for marginalized communities. Adequate and equitable funding can spur the expansion of physical infrastructure, the provision of learning materials, and the hiring of well-trained teachers. In addition to funding, it is important to promote equity and inclusiveness(Murari, 2024). This means addressing the challenges related to barriers for girls, children with disabilities, children located in rural areas, and children from minority groups by providing scholarships, school feeding programs, and school facilities that are accessible.

Technology and innovation can also serve to transform education. Digital devices and e-learning platforms have the potential to extend access to education in remote or underserved areas(Singh & Martolia, 2024). However, addressing the digital divide is critical to ensure that all learners have the potential to benefit from technological advances. Improving the collection and monitoring of data through education management information systems (EMIS) can monitor progress, identify gaps in education, and inform evidence-based policy formulation.

#### *Inclusion And Lifelong Learning in Achieving SDG4:*

Inclusion and lifelong learning are crucial aspects of Sustainable Development Goal 4 (SDG 4), which seeks to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all(Tilak, 2018). These two principles are not only essential to the goal but are essential principles in creating an equitable, resilient and knowledge-based society. Meaningful inclusion and commitment to learning throughout life is essential to addressing the SDG 4 targets(Moussa & Al-Horr, 2020).

Inclusion in education is about ensuring equal access for all people to quality learning experiences regardless of gender, disability, ethnicity, language, socioeconomic status or location. Inclusion is an important strategy to address inequity and reduce poverty(Hanushek & Woessmann, 2020). Inclusive education systems respond to the range of learning needs and allow students to participate and be free from exclusion. For example, ensuring children with disabilities have access to education through accessible buildings and trained teachers aligns with Target 4.5 – a call for the elimination of disparities in education. Inclusion is also important in developing belongingness and representation, which impacts motivation, achievement and well-being(Selwyn, 2019).

In combination, inclusion and lifelong learning assure that education systems are not only accessible but also flexible and nimble to support varied learning needs with respect to specific contexts(Day & Gu, 2014). Inclusion and lifelong learning empower marginalized groups, address inequalities, and enhance social cohesion—cornerstones of sustainable development. Also, through inclusion and lifelong learning, governments and institutions can develop flexible and learner-centered systems to ensure that no one is left behind(Times of India, 2025).

In summary, the success of SDG 4 largely depends upon how effectively educational systems embed inclusive and lifelong learning principles into their systems(Unterhalter et al., 2014). Inclusion and lifelong learning must be in policy, curriculum, pedagogy and assessment so

that education itself becomes a continuous, accessible, and transformational experience for all learners, no matter their circumstances(**Field, 2019**).

**The National Indicator Framework (NIF) Report for 2025 shows the following progress:**

Social Protection Coverage: 22% (2016) to 64.3% (2025).

Senior Citizens Receiving Support: Institutional support has grown from 23,000 (2015) to 1.57 lakh (2023-24).

Agricultural Productivity: GVA per agricultural worker has increased from ₹61,247 (2015-16) to ₹94,110 (2024-25).

Reduction in Inequality (Gini Coefficient):

Rural: 0.283 → 0.237

Urban: 0.363 → 0.284

Forest Cover: increased from 21.34% (2015) to 21.76% (2023).

Tertiary Education Gross Enrolment Ratio: increased from 23.7% (2015-16) to 29.5% (2022-23).

Renewable Energy Contribution: increased from 16.02% (2015-16) to 22.13% (2024-25).

**Challenges Impeding the Achievement of SDG 4**

While India has made notable advancements in enhancing education access and aligning all national pertinent policy with Sustainable Development Goal 4 (SDG 4),(**Lall, 2019**). there are still a number of continuing issues that impede the ability to facilitate inclusive, equitable and quality education for all. Below are the continuing issues:

**1. Inequities in Access and Retention**

While primary-level enrolment is near-universal, there are still high dropout rates at the secondary and higher secondary levels for girls, and for children who are from Scheduled Castes (SC), Scheduled Tribes (ST) and economically weaker sections.

There are inequities based on geography such that rural, tribal, and remote areas are lacking when compared to urban centers in the access to quality education.

**2. Poor Learning Outcomes**

Many children do not have basic literacy and numeracy skills even after spending years in education.

Assessments such as NAS (National Achievement Survey) and ASER (Annual Status of Education Report) continue to show low levels of proficiency and indicate a learning crisis, juxtaposed with the growth in enrolment.

**3. Implementation of Inclusive Education is Inadequate**

There is a strong emphasis on fully inclusive education in policy (e.g., NEP 2020, Samagra Shiksha) but many schools lack trained special educators, physical accessibility, assistive technologies, or appropriate teaching-learning materials for children with special needs(**UNESCO UIL, on India's National Education Policy**).

The full inclusion of children with disabilities and those with learning difficulties is also limited by the attitudes of educators and peers.

**4. Insufficient Lifelong Learning Ecosystem**

Adult literacy continues to be quite low in multiple states, especially among women in rural areas.

Lifelong learning opportunities based on vocational and continuing education for youth and adults are sporadic, fragmented, and have little funding.

Programs such as ULLAS/New India Literacy Programme face challenges in outreach, relevance, and sustainability.

### 5. Lack of Qualified and Trained Teachers

Many schools, particularly in rural areas, do not have sufficient subject-specific and trained teachers.

Professional development and in-service training in inclusive pedagogy and learner-centered pedagogy are limited.

### 6. Infrastructure Gaps

While there has been some progress, in many schools basic facilities such as clean drinking water, gender-specific toilets, electricity, and internet do not exist. The digital divide has exacerbated inequalities in education.

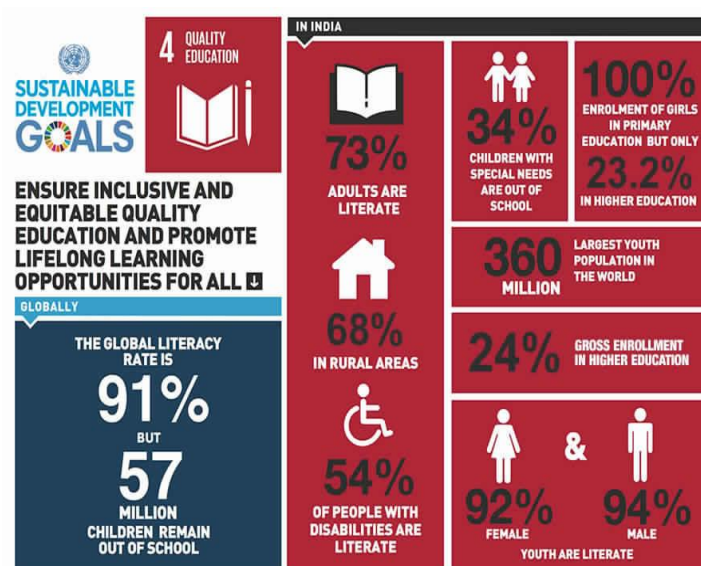


Figure: 1.1

Table 1.1 SDG-4 comparison — 5 countries (including India): which criteria / targets / policies they emphasise

SDG-4 criteria / focus area	India	Finland	Kenya	Brazil	South Korea
<b>1. Universal access (primary/secondary)</b>	Strong focus — NEP 2020 commits to universalising high-quality school education and reconfiguring system to reach all children.	Strong — near-universal enrolment and policies to keep children in school; emphasis on equity across regions.	High priority — efforts to expand access and monitor SDG4 global indicators; recent policies aim to increase enrolment and completion.	Explicit in national Plan for Education (PNE) and SDG4 monitoring — targets to universalise basic and upper secondary attendance	Strong universal coverage of basic education; national SDG4 commitments and coordination with UNESCO/Education 2030.

<b>SDG-4 criteria / focus area</b>	<b>India</b>	<b>Finland</b>	<b>Kenya</b>	<b>Brazil</b>	<b>South Korea</b>
<b>2. Early childhood care &amp; education (ECCE)</b>	Included — NEP emphasises strengthening ECCE, foundational literacy & numeracy (5+3+3+4 design).	Strong provision and integration with pre-school systems; lifelong learning orientation includes early years.	Policy attention to pre-primary expansion (linked to SDG indicator 4.2); ESD and early learning policies exist.	Recognised in PNE and SDG monitoring (indicator data available); focus on early years included in national targets.	National plans include early childhood as part of SDG4 commitments and Education2030 implementation.
<b>3. Equity &amp; inclusion (gender, disability, marginalised groups)</b>	Central — NEP and schemes target inclusion, multilingual education, affirmative measures and gender focus.	Equity is core to Finnish system (low disparities, strong social support). National statements emphasise “leave no one behind.”	High priority — SDG4 country reviews emphasise addressing regional/wealth/gender gaps and inclusion of marginalized learners.	Equity targets integrated in PNE and Brazil’s SDG4 monitoring ; attention to regional/ethnic disparities.	Inclusion (gender, rural/urban) is part of SDG4 implementation; strong central coordination for equitable outcomes.
<b>4. Learning outcomes &amp; assessment</b>	Strong emphasis — foundational literacy & numeracy campaigns, national assessment frameworks. NEP stresses learning outcomes.	High emphasis on learning quality and evaluation; Finland publishes evaluation and continuous improvement reports.	Growing focus — UNESCO country review shows effort to improve learning assessments and monitor SDG indicators (4.1).	Monitoring of SDG4 indicators includes learning outcome measures; national debates on quality persist.	Strong tradition of measuring and improving learning outcomes; linked to national SDG4 engagement.
<b>5. Teachers (training, standards, professional development)</b>	Major focus — teacher education reform, continuous PD, and	Teacher professionalism and PD are well-developed;	Emphasis on teacher capacity building in reforms (Curriculum, ESD	Teacher policies included within PNE and school	Strong national teacher development systems; professional standards align

<b>SDG-4 criteria / focus area</b>	<b>India</b>	<b>Finland</b>	<b>Kenya</b>	<b>Brazil</b>	<b>South Korea</b>
	improved teacher standards in NEP.	part of quality assurance and equity strategies.	integration). UNESCO notes teacher education as core.	system reform plans; capacity & training are ongoing priorities.	with SDG4 targets.
<b>6. TVET / skills &amp; higher education / lifelong learning</b>	NEP expands vocational education, skills integration in schools and focus on lifelong learning pathways.	Strong adult education and lifelong learning pathways; higher ed access and flexible routes are emphasised.	Skills and TVET are part of SDG4 monitoring; Kenya pushes TVET reform and ESD for employability.	TVET and higher ed included in national targets; Brazil monitors access and quality across levels.	High emphasis on vocational training, linkages to labour market, and lifelong learning in national policy.
<b>7. Education for Sustainable Development (ESD) / curriculum content</b>	NEP encourages multidisciplinary, value-based education and inclusion of sustainability topics.	ESD integrated across curriculum; Finland promotes sustainability and global citizenship learning.	Explicit ESD policy for education sector; integration into Competency-Based Curriculum.	SDG4.7 (global citizenship & ESD) appears in national agendas and PNE alignment.	Curriculum reforms and SDG4 commitments include ESD and global citizenship.
<b>8. Financing &amp; governance (targets, budgets, coordination)</b>	NEP calls for increased public spending and structural reforms; financing remains a key challenge.	Stable public financing, 3856 enrolment 3856zed governance with national coordination for SDG targets.	Kenya monitors SDG4 indicators and governance; budget constraints noted but plans exist for scaled investment.	PNE includes financing targets historically debated; SDG monitoring includes governance indicators.	Strong central coordination and investment in education; links between policy and SDG monitoring.

**Source:** Developed by Researcher

The comparison of SDG-4 (Quality Education) focus areas across India, Finland, Kenya, Brazil, and South Korea highlights both shared goals and distinct national approaches. India's National Education Policy (NEP) 2020 emphasizes universal access, early childhood care, foundational learning, teacher reform, and inclusion of vocational and sustainable education, though financing challenges persist. Finland stands out for near-universal access, equity, and a strong culture of lifelong learning supported by stable governance and sustained funding. Kenya prioritizes expanding access, equity, teacher development, and technical education under SDG4 monitoring, though budget limitations remain. Brazil's National Education Plan (PNE) integrates universal access, equity, teacher capacity, and sustainable development themes, backed by structured governance and monitoring mechanisms. South Korea demonstrates advanced achievement in universal coverage, quality assurance, vocational and lifelong learning, and Education for Sustainable Development (ESD), supported by strong national coordination and investment. Overall, while all five nations align with SDG-4 goals, their progress varies based on economic capacity, governance structures, and policy implementation strength.

### Policy Recommendations

The following recommendations are proposed to strengthen SDG 4 by embedding it and its principles in the education system of India based on the descriptive analysis.

- Strengthening foundational learning outcomes – accelerate to policy commitments for foundational literacy and numeracy by 2025; diagnostic assessments; remedial education; additional learning support especially in early grades.
- Scaling and deepening adult learning / lifelong learning programmes – make sure ULLAS/NILP is adequately resourced; ensure relevance of adult learning modules (vocational, life skills, digital); flexible hours; recognition and certification of non-formal learning.
- Enhancing teacher capacity and inclusive pedagogy – increase recruitment of special educators and teachers undertaking upskilling in inclusive pedagogy; and develop teacher education institutions to build capacity; provide professional development continuously.
- Improving infrastructure and supporting assistive devices – carry out accessibility audits for all schools; assistive technology and devices; resources (learning materials, e content) available in other languages; safe sanitation, drinking water, electricity etc.
- Data, Monitoring and Accountability – developing systems to collect disaggregated data (by disability, gender, caste, location); non-formal/adult learning outcomes in monitoring; timely report publication; accountability through state mechanisms and local governance.

### Government Efforts Relating to SDG 4 in India



Figure: 1.2

To realize Sustainable Development Goal 4 –“Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”– the Government of India has put in place a number of policy, programme and reform actions to transform the education system with respect to school education, higher education, adult education, and vocational education that will facilitate access, equity, quality and lifelong learning(AI-Samarrai, 2018).

### 1- National Education Policy (NEP) 2020

The NEP 2020 is a wide-ranging reform action and basis for India’s involvement in relation to SDG 4. Key points include:

Universalization of education from preschool to Grade 12, to achieve a 100% Gross Enrolment Ratio (GER) by 2030.The introduction of a 5+3+3+4 curricular structure, replacing the previous 10+2 model, aimed at ensuring the child learns what they are developmentally ready to learn.

A strong focus on foundational literacy and numeracy in the National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat).A clear focus on inclusive education with children with disabilities and from disadvantaged backgrounds. Support for multilingual education, especially in the early grades. Opportunities for vocational education, coding, and life skills as part of facilitating lifelong learning.Establishment of the Rastriya Shiksha Aayog (RSA) to guide implementation and monitor progress.

### 2- Samagra Shiksha Abhiyan

Combining previous schemes like SSA and RMSA into one integrated school education (pre-school to secondary) scheme.

Main focus on: improving infrastructure, ensuring equity (for girls, disadvantaged groups, differently-abled) and improving learning outcomes.

### 3- Sarva Shiksha Abhiyan (SSA)

An ongoing scheme for universalisation of elementary education. Free and compulsory education for children between 6-14 years of age (RTE Act).

### 4- Rashtriya Madhyamik Shiksha Abhiyan (RMSA)

Particularly focused on secondary education: to increase 3858nrolment and improve quality and infrastructure, and remove barriers.

### Progress As Of 2025

Higher 3858nrolment for primary and lower secondary school (near-universal access).

Improved gender parity in school education.

More than 70% coverage with foundational literacy programs across the states.

Significantly more use of digital platforms in support of teacher training and student learning.

Progress in school infrastructure such as electricity, internet, toilets and clean water.

Here’s a systematic comparison of the SDG 4 (Quality Education) performances for India, China and the USA, based on recent data. The points of comparison include education spending, higher education 3858 enrolment, dropout rates/ 3858 enrolment retention, and international performance/learning outcomes. With these data points, I will be able to compare how India is doing well, where it is falling short, and how China and the USA compares.

Table 1.2

INDICATOR	INDIA	CHINA	USA
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Education Expenditure (% of GDP)	India invests about <b>4.6% of GDP</b> in education.	China spends ~ <b>3.3% of GDP</b> on education among its large populous countries.	USA spends ~ <b>5.4% of GDP</b> on education.
Gross Enrollment Ratio (GER) in Higher Education	Estimated ~ <b>28-30%</b> for India in recent years. India is aiming to increase this.	China's higher education GER is higher: ~ <b>57.8%</b> according to a 2022 White Paper.	USA has a much higher GER in higher education (often 80-90% or more in many estimates depending on age group) — very large participation.
Dropout / Retention / Enrollment at Secondary & Earlier Levels.	In India, recent data shows improvement: dropout rates declining across various school stages. However, secondary level (Class IX-XII) dropout rates still relatively substantial (~10-15% in many states). Enrolment ratios decline beyond primary and middle school.	China tends to have much lower dropout rates, particularly in compulsory years; retention is good especially at basic education levels. (Exact recent uniform national figures are harder to find in our data sample here.	Dropout rates in USA are relatively low for compulsory school years; for ages roughly 16-24 (those who have not earned a high school credential), the “status dropout rate” has come down: from ~7.0% in 2012 to ~5.3% in 2022.
Learning Outcomes / International Assessment Performance (PISA or Similar)	India has participated in assessments in limited states and shows lower scores in international benchmarks (for example, earlier PISA-problems) especially in foundational literacy & numeracy; many students lag behind expected levels. India also has large intra-state and urban-rural disparities. (Our data sample did not have very recent national PISA results for India showing large improvements.)	China (in certain provinces like Beijing, Shanghai, Jiangsu, Zhejiang) consistently performs very well in PISA (math, science, reading). These regions tend to dominate the Chinese figures in these assessments.	USA typically performs above global average in PISA, but is behind top performing East Asian regions (some Chinese provinces among them). Also experiences disparities in outcomes by income, race/region. USA's decline/stagnation in some subjects in recent PISA rounds is a concern.

**Source:** Developed by Researcher

A comparison of education indicators across India, China, and the USA reveals differing levels of investment, access, and learning outcomes. India allocates about 4.6% of its GDP to education, focusing on expanding access and improving quality, though higher education enrollment remains moderate at around 28–30%. Dropout rates have declined, yet remain noticeable at the secondary level, and learning outcomes continue to show disparities across states and between rural and urban areas. China, spending about 3.3% of its GDP, has achieved impressive progress in access and quality, with a higher education Gross Enrollment Ratio (GER) of nearly 58% and low dropout rates during compulsory schooling. Its students in key provinces perform exceptionally well in international assessments like PISA, reflecting strong foundational and advanced learning outcomes. The USA invests about 5.4% of GDP in education and boasts very high higher education enrollment rates (80–90%) along with low dropout rates. However, despite relatively strong performance in PISA assessments, the U.S. faces persistent achievement gaps based on socioeconomic and regional factors, and some indicators show stagnation in learning progress. Overall, the U.S. leads in investment and participation, China excels in learning outcomes and retention, while India continues to strengthen access and quality amid ongoing reforms.

### **Recommendations**

- To help implement SDG4 and speed up implementation, the following is suggested:
- Set a focus on Learning Outcomes: Design and put into place targeted programs to improve foundational skills, with outcomes based on an assessment such as ASER or formative/in-house assessments to inform interventions.
- Strengthening Teacher Development: Invest in ongoing professional development, innovations in pedagogy, and accountability systems for teachers.
- Improve Equity Measures: Increase scholarships, physical infrastructure (for example, toilets, and safe transport), and enhanced community engagement to support marginalized groups.
- Spread Early Childhood Education: Universalize quality pre-primary education to serve as a pathway towards lifelong learning.
- Utilize Technology Inclusively: Narrow the digital divide through affordable internet access and devices, and blended learning approaches.
- Increase Public Investment: Transition towards an expenditure of 6 per cent of GDP on education as recommended in the NEP, ensuring efficient and equitable expenditure.
- Robust Monitoring and Data Systems. Improve real-time data collection and transparency on tracking progress and customizing policies.

### **Conclusion**

Embedding Sustainable Development Goal 4 (SDG4) within India's education system is not only a commitment to global development goals but a necessary pathway to national progress, social equity, and economic growth. Ensuring inclusive and equitable quality education that promotes lifelong learning opportunities for all is a monumental challenge for a country as vast and diverse as India. However, it is also an unparalleled opportunity to transform the lives of millions and unlock the full potential of the nation's human capital.

India's strides toward achieving SDG4 have been significant, with landmark policy reforms such as the National Education Policy (NEP) 2020 providing a visionary framework that aligns with the global agenda. Programs like Samagra Shiksha and NIPUN Bharat Mission

exemplify the government's intent to enhance access, improve infrastructure, and prioritize foundational literacy and numeracy — the bedrock skills for lifelong learning. Additionally, the expansion of digital platforms and emphasis on vocational and skill-based education reflect an understanding of the changing landscape of education and employment.

Yet, despite these efforts, critical challenges remain that threaten to derail the full realization of SDG4 in India. The quality of education continues to be uneven, with large sections of students, particularly from marginalized communities and remote regions, struggling to attain basic competencies. Enrollment rates have improved, but retention beyond primary education remains problematic, especially at the secondary and higher secondary levels. Persistent disparities in gender, socio-economic status, and geography exacerbate educational inequities, preventing many children from accessing meaningful learning experiences.

Investment is critical — not only increasing the overall education budget toward the NEP's recommended 6% of GDP but ensuring funds are efficiently allocated to maximize impact on equity and quality. Strengthening teacher education and professional development programs will build a motivated and skilled workforce capable of fostering inclusive classrooms. Expanding universal access to quality early childhood education will set a strong foundation for lifelong learning and cognitive development.

The government, civil society, communities, and private sector must collaborate to create an enabling environment where education is not merely about enrollment but about meaningful, equitable, and lifelong learning opportunities for every individual. Technology should be leveraged thoughtfully to enhance learning, but with intentional efforts to overcome the digital divide.

Finally, robust monitoring, transparent data systems, and evidence-based policymaking are essential to track progress, identify gaps, and adapt strategies to evolving needs. By embedding SDG4 deeply within its education framework, India can make remarkable progress towards building a just and inclusive society, empowering its citizens, and contributing significantly to sustainable development at the global level.

In conclusion, embedding SDG4 in India's education system is a complex but achievable mission that holds the key to unlocking inclusive growth and social transformation. The path demands vision, resources, collaboration, and unwavering commitment. With concerted efforts, India can ensure that every child and adult not only accesses education but thrives in it, embracing lifelong learning as a tool for personal empowerment and national progress.

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