India's New National Education Policy: Evidence and Challenges

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Introduction

The global expansion of schooling in the past three decades is unprecedented: Primary school enrollment is near-universal, expected years of schooling have risen rapidly, and the number of children out of school has fallen sharply. Yet the greatest challenge for the global education system, a "learning crisis" per the World Bank, is that these gains in schooling are not translating into commensurate gains in learning outcomes. This crisis is well exemplified by India, which has the largest education system in the world. Over 95 percent of children aged 6 to 14 years are in school, but nearly half of students in Grade 5 in rural areas cannot read at a Grade 2 level, and less than one-third can do basic division (Pratham, 2019). India's new National Education Policy (NEP) of 2020 (the first major revision since 1986) recognises the centrality of achieving universal foundational literacy and numeracy. Whether India succeeds in this goal matters intrinsically through its impact on over 200 million children and will

Key Points

- The National Education Policy (NEP) of 2020 provides an important opportunity to move Indian education from "sorting and selection" to "human development," enabling every student to develop to their maximum potential.

- Although the NEP focuses on foundational literacy and numeracy, and early childhood education is welcome, delivering on its promise will require sustained attention to implementation.

- Three principles will be very important for implementation: (1) a focus on independent and reliable measurement of outcomes; (2) rigorous evaluations of policy and programme effectiveness; (3) careful cost-effectiveness analyses of alternative policy proposals.

- The COVID-19 pandemic has disrupted education severely. An increased focus on involving parents in education and in using technology effectively (while bridging the digital divide) will be important for recovery.

also have lessons for other low- and middle-income countries. We review the NEP's discussion of school education in light of accumulated research evidence that may be relevant to successfully implementing this ambitious goal.

Governance and pedagogy

India has made tremendous progress on access to schooling since the 1990s. Yet multiple nationally representative datasets suggest that learning levels have remained largely flat over the past 15 years. A large body of evidence has shown that increasing "business as usual" expenditure on education is only weakly correlated with improvement in learning (Glewwe and Muralidharan, 2016). Two key constraints that limit the translation of spending (of time and money) into outcomes are weaknesses in governance and pedagogy.

Governance challenges are exemplified by high rates of teacher absence in public schools, with nearly one in four teachers absent at the time of surprise visits (Muralidharan et al., 2017). Even when teachers are present, instructional time is low for a variety of reasons, including large amounts of administrative paperwork.

Further, teacher recognition for performance and sanctions for nonperformance are low. Studies in India and elsewhere have shown that even modest amounts of performance-linked bonus pay for teachers can improve student learning in

a cost-effective way (Muralidharan and Sundararaman, 2011). By contrast, unconditional increases in teacher pay (the largest component of education budgets) have no impact on student learning (Muralidharan and Sundararaman, 2011; de Ree at al., 2018). Overall, improving governance and management in public schools may be a much more cost-effective way of improving student learning than simply expanding education spending along default patterns.

An even greater challenge in translating school attendance into learning outcomes may be weaknesses in pedagogy. Even motivated teachers primarily focus on completing the textbook, without recognising the mismatch between the academic standards of the textbook and student learning levels. The rapid expansion of school enrollment has brought tens of millions of first-generation learners into the formal education system who lack instructional support at home and often fall behind grade-appropriate curricular standards. The mismatch is clearly illustrated in the figure, which presents the levels and dispersion of student achievement in mathematics in a sample of students from public middle schools in Delhi (Muralidharan, Singh and Ganimian, 2019). There are three points to note about this figure: (i) The vast majority of students are below curricular standards (represented by the blue line of equality), with the average Grade 6 student 2.5 years behind; (ii) the average rate of learning progress is much flatter than that envisaged by the curricular standards, resulting in widening learning gaps at higher grades; (iii) there is enormous variation in learning levels of students in the same grade, spanning five to six grade levels in all grades.

The figure captures many features that we think are central to understanding the Indian education system. It suggests a curriculum that targets the top of the achievement distribution and moves much faster than the actual achievement level of students. Coupled with social promotion—grade retention is forbidden by law until Grade 8—this leads to student achievement being widely dispersed within the same grade and most students receiving instruction that they are not academically prepared for. Similar patterns likely exist in many other developing countries (Muralidharan, Singh and Ganimian, 2019).

The figure may also help explain why increased expenditures on items such as teacher salaries and school infrastructure may have little impact on learning. Students, having fallen so far behind the curriculum, may not gain much from the default of textbook-linked instruction. By contrast, pedagogical interventions that target instruction at the level of students' academic preparation can be highly effective (Muralidharan, Singh and Ganimian, 2019; Banerjee et al., 2007; Banerjee et al., 2017).

The figure also highlights the stark inequality in Indian education. The true inequality is likely even greater because the figure does not reflect the large number of students in private schools. A comparison of data from two Indian states to countries included in an international learning assessment found that learning inequality in India is second only to South Africa (Das and Zajonc, 2010). Thus, although the academically strongest Indian students are internationally competitive, with many ultimately achieving world-renowned success, most Indian children fail to acquire even basic skills at the end of their schooling.

To better understand the Indian education system, it is useful to recognise that education systems have historically served two very different purposes: (i) to impart knowledge and skills (a "human development" role) and (ii) to assess, classify, and select students for higher education and skill-intensive occupations (a "sorting and selection" role). The Indian education system primarily serves as a "sorting and selection" or a "filtration" system rather than a "human

Figure 1. Achievement versus curricular standards
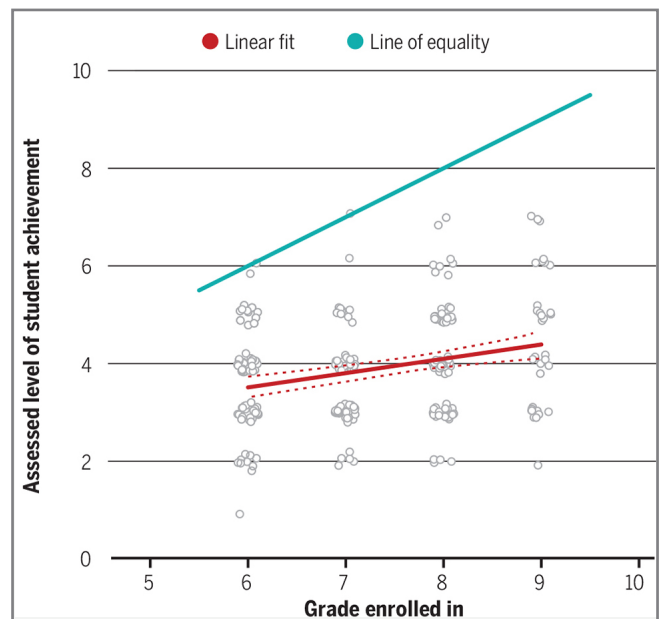
Note: The estimated level of student achievement (determined by a computer-aided instruction program) in mathematics in public middle schools in Delhi is plotted against the grade in which students are actually enrolled. See Muralidharan, Singh and Ganimian (2019) for details and data. Most students are below curricular standards (line of equality), average progress in learning is flatter than curricular standards, and there is substantial variation in achievement.

The graphic has been adapted from Muralidharan, Singh and Ganimian (2019) by H. Bishop/Science; © American Economic Association; reproduced with permission of the American Economic Review

development" system. The system focuses primarily on setting high standards for competitive exams to identify those who are talented enough to meet those standards, but it ends up neglecting the vast majority of students who do not. Thus, a fundamental challenge for Indian education policy is to reorient the education system from one focused on sorting and identifying talented students to one that is focused on human development that can improve learning for all.

Research into policy

The NEP, released in 2020, does an excellent job of reflecting key insights from research. Three points are especially noteworthy.

First, and most important, is the centrality accorded to universal foundational literacy and numeracy, which the NEP calls an "urgent and necessary prerequisite for learning." This represents a substantial shift in the definition of education "quality" from inputs and expenditure to actual learning outcomes. Relatedly, the NEP recognises the importance of early childhood care and education and brings preschool education into the scope of national education policy alongside school education. The NEP's focus on stronger and universal preschool education is consistent with global recognition of the importance of "the early years" in developing cognitive and socioemotional skills.

Second, consistent with the evidence, the NEP aims to strengthen teacher effectiveness through a combination of improving their skills, reducing extraneous demands on their time, and rewarding performance. Notably, the NEP highlights the need for "a robust merit-based structure of tenure, promotion, and salary structure." This is a meaningful departure from the status quo that does not reward good performance. If implemented well, improving teacher motivation and effort can be a force multiplier for the effectiveness of other input-based spending. School inputs on their own do not seem to translate into learning gains (Glewwe and Muralidharan, 2016), but inputs can be highly effective when teachers and principals are motivated to improve learning outcomes (Mbiti et al., 2019).

Third, the NEP recognises that improving school effectiveness may require changes to how schools are organised and managed. Large-scale school construction in the 1990s played an important role in promoting universal school access by providing a school in every habitation. However, as of 2016, over 417,000 government primary schools (~40 percent of schools) had fewer than 50 students across Grades 1 to 5 (Kingdon, 2020). Small and spread-out schools present challenges for governance (by making supervision difficult), pedagogy (by requiring teachers to simultaneously teach students in multiple grades), and infrastructure quality (by being too small for libraries and computer laboratories), as well as cost-effectiveness. The NEP, therefore, recommends investing in larger school complexes and also recognises the importance of school management, emphasising the need for customised school development plans to anchor a process of continuous school improvement. Given large improvements in rural road construction, it will be viable to provide buses or other transport to ensure universal school access for all children while also obtaining the benefits of larger-scale schools.

Implementation challenges

Although the NEP is an excellent document that reflects research and evidence, delivering on its promise will require sustained attention to implementation. The glaring gaps between the high quality of policy and programme design on one hand, and the low quality of implementation on the other, are widely recognised in India across many dimensions of public policy.

Preliminary findings from two of our recent projects illustrate this challenge in relation to policy recommendations in the NEP. First, in a large-scale randomised controlled trial covering over 5,000 schools in the state of Madhya Pradesh, we found no notable effects on school functioning or student achievement of an ambitious reform that aimed to improve school management, largely through the type of school development plans that are recommended in the NEP (Muralidharan and Singh, 2020). Yet, this model is perceived to be successful and has been scaled up to over 600,000 schools nationally (and aims to reach 1.6 million schools). Our work suggests that this perception is based primarily on completion of paperwork (such as school assessments and improvement plans), even though there was no change in management, pedagogy, or learning outcomes.

The second example illustrates how even measuring learning outcomes accurately is challenging. The state of Madhya Pradesh administers an annual state-level standardised assessment to all children in public schools from Grades 1 to 8. This has been declared a national "best practice" and the NEP recommends a similar assessment for students in all schools in Grades 3, 5, and 8. Yet, an independent audit that administered the same test questions to the same students a few weeks after the official tests showed that levels of student achievement are severely overstated in official data (Singh, 2020a). The audit found that a large fraction of students did not possess even basic skills even though most of these students were shown as having passed the test.

In light of such challenges, we highlight three key principles that may increase the likelihood of success. The first is measurement. India's success in achieving universal enrollment shows that the system is capable of delivering on well-defined goals that are easily measured. A similar approach needs to be implemented for delivering universal foundational literacy and numeracy. Although the challenge of data integrity is real, one reason for optimism is that there is evidence that using technology-based independent testing sharply reduced the extent to which data on learning was inflated (Singh, 2020a). Thus, investing in independent ongoing measurement of learning outcomes in representative samples to set goals and monitor progress will be a foundational investment.

The second key principle is ongoing evaluations of policy and programme effectiveness. An important lesson from the past two decades of research on education is that many commonly advocated interventions for improving education (such as increasing teacher salaries, providing school grants, or giving out free textbooks) may have very little impact on learning outcomes, whereas other interventions (such as teaching at the right level) may be highly effective. Even in the same class of policies, different interventions may have widely varying effectiveness; for instance, in the case of education technology, the impact of providing hardware alone is zero or even negative, but personalised adaptive learning programmes have been found to be highly effective (Muralidharan, Singh and Ganinian, 2019; Banerjee et al., 2007). Yet, use of rigorous, experimental evidence in education policy-making remains more an exception than the rule. Disciplining interventions under the NEP with high-quality evaluations can accelerate the scaling up of effective programmes as well as course corrections of ineffective ones.

The third key principle is cost-effectiveness. Evidence has shown pronounced variation in the cost-effectiveness of education interventions, with many expensive policies having no impact and inexpensive ones being very effective. Given limited resources and competing demands on them, cost-effectiveness is not only an economic consideration but also a moral one. The World Bank and the UK Foreign, Commonwealth and Development Office recently synthesised a large body of evidence on the most cost-effective education interventions (Global Education Evidence Advisory Panel, 2020). India would do well to heed these recommendations (suitably modified to its context) when allocating scarce public resources.

Confronting COVID-19

Education has been sharply disrupted around India and the world by the COVID-19 shock. Public schools in India have been mostly closed and are likely to remain so for the entire academic year. This presents one major threat and two opportunities.

The threat is that the learning crisis will worsen. Children who have missed a year of school—especially those without educated parents—are likely to have regressed in their learning and suffer long-term learning losses. Thus, the challenges (see Figure 1) are likely to have worsened, making it imperative to provide high-quality supplementary instruction when schools reopen, including perhaps through reducing holidays and vacation days.

Yet, there may also be two important longer-term opportunities. The first is the rapid acceleration in the use of education technology by both households and the government. Given evidence of strong positive effects of personalised instruction, the widespread adoption of education technology may help accelerate the NEP's stated goal of reducing the digital divide and leveraging potential benefits of technology for education, such as opportunities to increase student engagement and personalise instruction to individual student needs.

The second is increasing engagement with parents and families. Households play a critical role in education. Yet, education policy has mostly focused on school-based interventions, reflecting a belief that it is more feasible to improve schools than to intervene in households at scale. The COVID-19 crisis and the resulting growth in the use of mobile phones for engaging children have sharply increased educators' engagement with parents, with approaches ranging

from text-message reminders to check their child's homework to parent groups for peer coaching and motivation. Work is under way to evaluate the impacts of these promising approaches. The benefits of increased parental engagement may persist even after schools reopen.

Nothing inevitable

Effective reform will require a confluence of ideas, interests, institutions, and implementation. Our focus has been on the ideas of the NEP and the extent to which they are supported, or may be refined by, research evidence. The NEP also pays attention to institutional infrastructure needed to deliver on this vision and acknowledges the centrality of implementation. However, both the NEP and our discussion are silent on the interests, specifically on political and bureaucratic constraints. We remain optimistic that substantial improvements are possible. In particular, backing the intent of the NEP with a commitment to regular independent measurement and reporting of learning outcomes in a representative sample of all children—as envisaged by the NEP in setting up a quasi-independent national testing agency—may help to provide an institutionalised focus on learning to both political and bureaucratic leadership. The NEP's proposal to provide such information to parents directly, if implemented in easily accessible formats, may catalyse improvements in both public and private schools.

Such reforms are particularly urgent given India's demographic transition. In many states, especially in South India, total fertility rates are already below replacement levels, and cohort sizes in primary schooling are shrinking. Thus, much of the country has already passed the peak of potential demographic dividend without having solved the learning crisis. Some large populous states in Northern India, such as Uttar Pradesh and Bihar, still have a window for intervention, but this window is shrinking. The one silver lining is that declining cohort sizes may increase resources per student in coming years, thus freeing up fiscal space for cost-effective investments.

There is nothing inevitable about low learning levels in Indian schools. Other developing countries, such as Vietnam, have been able to achieve substantially superior learning outcomes at very similar levels of per capita incomes. Research suggests that a key explanation is the greater productivity of Vietnam's schooling system, which focuses attention on ensuring that even the weakest students reach minimum standards of learning (Singh, 2020b). The NEP provides an important opportunity to move Indian education from "sorting and selection" to "human development," enabling every student to develop to their maximum potential. India, and the world, will be better off if this vision is realised in practice.

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