

Box 2.7 : Formal Apprenticeships: An Idea Whose Time Has Come* (Contd...)

One of the reasons for tightly regulating apprenticeships was to prevent companies from hiring cheap labour under the guise of an apprenticeship programme. A simpler set of provisions to streamline regulation and incentivize corporates while protecting the interest and well-being of apprentices may now be needed.

How can it be made to work?

The rules and regulations overseeing apprenticeships need to be changed such that employers and prospective apprentices can choose each other freely by just requiring information on what will be learnt on the job and a minimum wage. Some recommendations including those from the 2009 Planning Commission taskforce are described below:

1. **Simpler regulation:** A single window mechanism is needed to clear company applications for pan-India apprenticeship programmes. Currently, companies need to approach each state apprenticeship adviser separately. Partnerships between companies and industry federations should be facilitated by giving timely permissions.
2. **Wider reach:** Apprentices are only allowed in specified trades. Majority of graduates are not currently covered under formal Apprenticeships. In addition, the procedure to include new trades especially services, which are largely excluded, is complex and can take many months. A fully deregulated list is needed for apprenticeships to remain dynamic and in line with the changing needs of the workplace.
3. **Flexibility to companies:** Currently many schemes are required to be unnecessarily long (up to four years), and have rigid requirements on worker to apprentice ratio. Moreover, the penal provisions for companies, even for small violations of the rules, are very severe. Certain relaxation of rules can help give flexibility to companies. For example, the duration of apprenticeship training can be allowed to vary across trades and companies. Short-duration programmes (less than 12 months) can be freed from much of the oversight provided they pay minimum wages. Relaxing the rigid requirements on the ratio of apprentices to workers could also accelerate capacity creation.
4. **Dual system of training:** Partnerships between companies and educational institutions should be encouraged. Like the German model, corporates can be allowed to outsource theoretical training, and educational institutions can be allowed to outsource practical training.
5. **Active exchanges:** There should be active exchanges and portals, matching prospective apprentices to employers.

* Prepared by Pranjul Bhandari.

the private sector (through PPPs and for-profit vocational training) and NGOs. Basic education is also an important input for enhancing human capital.

Recent government initiatives to expand access to quality primary education are important; however, more needs to be done (see Box 2.8).

Box 2.8 : Using Evidence for Better Policy: The Case of Primary Education in India*

Investments in education both contribute to aggregate economic growth as well as enable citizens to broadly participate in the growth process through improved productivity, employment, and wages, and are therefore a critical component of the 'inclusive growth' agenda of the Government of India. The past decade has seen substantial increases in education investments under the Sarva Shiksha Abhiyan (SSA), and this additional spending has led to considerable progress in improving primary school access, infrastructure, pupil-teacher ratios, teacher salaries, and student enrollment. Nevertheless, student learning levels and trajectories are disturbingly low, with nationally representative studies showing that over 60 per cent of children aged 6-14 are unable to read at second-grade level. Further, these figures have shown no sign of improving over time (and may even be deteriorating--see ASER study discussed in Box 13.4).

The past decade has also seen a number of high-quality empirical studies on the causes and correlates of better learning outcomes based on large samples of data and careful attention paid to identification of causal relationships. This research has identified interventions/inputs that do not appear to contribute meaningfully to improved education outcomes, as well as interventions that are highly effective. In particular, the research over the past decade suggests that increasing inputs to primary education in a 'business-as-usual' way is unlikely to improve student learning meaningfully unless accompanied by significant changes in pedagogy and/or improvements in school governance. It is therefore imperative that education policy shifts its emphasis from simply providing more school inputs in a 'business-as-usual' way and focuses on improving education outcomes.

School Inputs

Analysis of both administrative and survey data shows considerable improvements in most input-based measures of schooling quality. But there is very little impact of these improvements in school facilities on learning outcomes. This is not to suggest that school infrastructure does not matter for improving learning outcomes (they may be necessary but not sufficient), but the results highlight that infrastructure by itself is unlikely to have a significant impact on improving learning levels and trajectories. Similarly, while there may be good social and humanitarian reasons for mid-day meal programmes (including nutrition and child welfare), there is no evidence to suggest that they improve learning outcomes.

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Box 2.8 : Using Evidence for Better Policy: The Case of Primary Education in India* (Contd...)

Even more striking is the fact that no credible study on education in India has found any significant positive relationship between teachers possessing formal teacher training credentials and their effectiveness for improving student learning. Similarly, there is no correlation between teacher salary and its effectiveness for improving student learning, and at best there are very modest positive effects of reducing pupil-teacher ratios on learning outcomes. As discussed further, these very stark findings most likely reflect weaknesses in pedagogy and governance which are key barriers in translating increased spending into better outcomes.

The results summarized so far can be quite discouraging. Fortunately, the news is not all bad, because the evidence of the past decade also points consistently to interventions that have been highly effective for improving learning outcomes, and are able to do so in much more cost-effective ways than the status-quo patterns of spending.

Pedagogy

A key determinant of how schooling inputs translate into learning outcomes is the structure of pedagogy and classroom instruction. Getting aspects of instruction right is particularly challenging in a context such as that of India where several millions of first-generation learners have joined a rapidly expanding national schooling system. In particular, standard curricula, textbooks, and teaching practices that may have been designed for a time when access to education was more limited may not fare as well under the new circumstances, since the default pedagogy is one of 'completing the textbook', which increasingly does not reflect the learning levels of children in the classroom, who are considerably further behind where the textbook expects them to be.

Evidence that 'business-as-usual' pedagogy can be improved is found in several randomized evaluations finding large positive impacts of supplemental remedial instruction in early grades that are targeted to the child's current level of learning (as opposed to simply following the textbook). These positive results have been found consistently in programmes run by non-profit organizations in several locations (including UP, Bihar, Uttaranchal, Gujarat, Maharashtra, and Andhra Pradesh). Second, the estimated impact from these interventions (whose instructional time is typically only a small fraction of the duration of the scheduled school year) is considerable—often exceeding the learning gains from a full year of schooling. Third, these interventions are typically delivered by modestly paid community teachers, who mostly do not have formal teacher training credentials. Finally, these supplemental remedial instruction programmes are highly cost effective and deliver significant learning gains at much lower costs than the large investments in standard inputs.

Governance

Beyond pedagogy, another explanation for the low correlation between increases in spending on educational inputs and improved learning outcomes may be the weak governance of the education system and limited effort on the part of teachers and administrators to improve student learning levels. The most striking symptom of weak governance is the high rate of teacher absence in government-run schools. While teacher absence rates were over 25 per cent across India in 2003, an all-India panel survey that covered the same villages surveyed in 2003 found that teacher absence in rural India was still around 24 per cent in rural India in 2010. The fiscal cost of teacher absence was estimated at around Rs 7,500 crore per year suggesting that governance challenges remain paramount. There is evidence that even modest improvements in governance can yield significant returns. Improving monitoring and supervision of schools is significantly correlated with reductions in teacher absence, and investing in improved governance by increasing the frequency of monitoring could yield an eight-fold return on investment in terms of reducing the fiscal cost of teacher absence.

The evidence also points to the importance of motivating teachers by rewarding good performance. Rigorous evaluations of carefully designed systems of teacher performance pay in Andhra Pradesh show substantial improvements in student learning in response to even very modest amounts of performance-linked pay for teachers (that was typically not more than 3 per cent of annual pay). Evidence from a long-term follow up shows that teacher performance pay was 15 to 20 more times more effective for raising student learning than reductions in pupil-teacher ratios. More broadly, these results suggest that the performance of front-line government employees depends less on the level of pay and more on its structure.

From Evidence to Policy

Three immediate policy implications of this body of research are summarized below¹.

- 1) Make learning outcomes an explicit goal of primary education policy and invest in regular and independent high-quality measurement of learning outcomes: While independently measuring and administratively focusing on learning outcomes will not by itself lead to improvement, it will serve to focus the energies of the education system on the outcome that actually matters to millions of first-generation learners, which is functional literacy and numeracy.
- 2) Launch a national campaign of supplemental instruction targeted to the current level of learning of children (as opposed to teaching to the textbook) delivered by locally hired teacher assistants, with a goal of reaching minimum absolute standards of learning for all children: There is urgent need for a mission-like focus on delivering universal functional literacy and numeracy that allow children to 'read to learn'. The evidence strongly supports scaling up supplemental instruction programmes using locally hired short-term teaching assistants that are targeted to the level of learning of the child, and the cost-effectiveness of this intervention also makes it easily scalable.

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Box 2.8 : Using Evidence for Better Policy: The Case of Primary Education in India* (Contd...)

- 3) Pay urgent attention to issues of teacher governance including better monitoring and supervision as well as teacher performance measurement and management: A basic principle of effective management of organizations is to have clear goals and to reward employees for contributing towards meeting those goals. The extent to which the status quo does not do this effectively is highlighted in the large positive impacts found from even very modest improvements in the alignment of employee rewards with organizational goals. There can be potentially large returns of implementing these ideas in education and beyond.

The next ten years will see the largest ever number of citizens in the school system at any point in Indian history (or future), and it is critical that this generation that represents the demographic dividend be equipped with the literacy, numeracy, and skills needed to participate fully in a rapidly modernizing world. In a fiscally constrained environment, it is also imperative to use evidence to implement cost-effective policies that maximize the social returns on any given level of public investment. The growing body of high-quality research on primary education in the past decade provides opportunity for putting this principle into practice.

* Prepared by Karthik Muralidharan.

¹See Muralidharan (2012) for a more detailed discussion and for references to the studies summarized here.

CONSEQUENCES AND CONCLUSION

2.53 Recent economic history is replete with examples of economies that were supposed to have great potential but ultimately did not achieve rapid economic growth and improvements in standards of living. At the same time, we have instances of economies classified as basket cases that achieved rapid turnarounds. India's achievement in the post-reform period and South Korea's rapid transformation surely fall in this latter category. But India's continuing on a rapid growth path is not preordained. Besides favourable circumstances, it requires deft policymaking and a broad vision of the future, possible risks, and opportunities. We stand at a crossroads where we need to develop a clear strategy for continued inclusive growth. Let us consider what might happen under different scenarios. These are hypothetical scenarios, and based on informed estimates, but reflect the forces that will be at play.

Business as usual: Some improvement in infrastructure but only slow improvement in education, and no change in institutional structure such as business regulation and labour laws. Some movement from agriculture to low skill services such as construction and household work, as well as to informal manufacturing, but too few quality jobs. GDP growth settles into a comfortable 6-7 per cent, the new "normal". There is growing presence of unprotected workers in manufacturing and the possibility of rising labour frictions. There is immense pressure on education to make students job-worthy, but with organized manufacturing playing little role in training workers and imparting skills on the job,

there is a continuing mismatch between employer needs and worker capabilities. Growth is slower than it could be and inequality higher than it ought to be.

Reforms: Vast improvements in infrastructure, education, as well as in business regulation and labour laws. As fewer workers depend on agriculture, larger holdings and more investment in capital and technology create a much healthier agricultural sector, with significant rural entrepreneurship surrounding activities like horticulture, dairy products, and meat. The manufacturing sector becomes a training ground for workers, absorbing more students with a middle or high school education. India moves into niches vacated by China such as semi-skilled manufacturing, even while enhancing its advantage in skilled manufacturing and services. India experiences faster and more equitable growth. Social frictions are minimized as both agriculture and manufacturing create better livelihoods.

Decline: No improvement in infrastructure, education, or institutions: As fewer jobs are created outside of agriculture, more stay in agriculture, increasing the pressure on land and lowering incomes. Small agricultural plots do not provide enough income, nor can they be leased out. More families break up, with males seeking work elsewhere, and labour participation increases. There is large-scale migration to overburdened cities. More supports are given to agriculture and transfers are made to rural areas so as to prevent further migration. The strain on government finances increases. Income inequality between good service jobs in cities and marginal