TEACHING AND LEARNING: Achieving quality for all

Monitoring the Education for All goals

Progress towards the six Education for All goals in South and West Asia

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<th>World</th>
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<td>Goal 2  Primary net enrolment ratio (%)</td>
<td>74</td>
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<td>Out-of-school children (million)</td>
<td>40.1</td>
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<td>Youth literacy rate* (%)</td>
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<td>Goal 5  Primary gender parity index</td>
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<td>Goal 6  Primary pupil/teacher ratio</td>
<td>36</td>
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<td>Finance Public education spending (% GNP)</td>
<td>3.9</td>
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<td>(% total government expenditure)</td>
<td>14.6</td>
<td>15.0</td>
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* Progress on literacy is reported for the periods 1985/94 (left column) and 2005/11 (right column).

Despite progress, most EFA goals are likely to be missed by 2015

Early childhood care and education
Early childhood outcomes have improved. For example, the under-5 mortality rate fell from 92 deaths for every 1000 live births in 2000 to 58 in 2012. The Maldives reduced child mortality by more than 70% in the short space of two decades.

The pre-primary education gross enrolment ratio more than doubled from 22% in 1999 to 50% in 2011. The Islamic Republic of Iran has made particularly fast progress, expanding access by more than 25 percentage points (from 14% to 43%).

Universal primary education
South and West Asia is still far from achieving universal primary enrolment with a net enrolment ratio of 89% and over 12 million children out of school.

Source: UIS database
Youth and adult skills
Slow progress towards reducing the number of out-of-school adolescents in South and West Asia resulted in the region’s share of the total number increasing from 39% in 1999 to 45% in 2011.

Adult literacy
South and West Asia is the region with the second fastest increase in adult literacy rates in the world. Yet, it has seen its population of illiterate adults remain stable at just over 400 million since 1990.

Gender parity and equality
The region is home to four of the countries with the highest gender disparities globally. Two of these have very high disparities at the expense of girls: Afghanistan, with 71 girls in school for every 100 boys, and Pakistan, with 82 girls for every 100 boys. Two other countries in the region have high disparities at the expense of boys: Bangladesh, with 94 boys for every 100 girls, and Nepal, with 92 boys for every 100 girls.

Quality of education
The lack of female teachers is acute at secondary school. In Nepal, the share of female teachers falls from 42% in primary school to 27% in lower secondary school and to 16% in upper secondary school.

Monitoring global education targets after 2015
The pace of progress towards universal primary education, lower secondary education and youth literacy is too slow for many countries in the region, particularly for the disadvantaged. For example, by the end of the decade in South and West Asia, while 89% of the richest urban males completed lower secondary school, only 13% of the poorest rural girls did so.

In Pakistan, rich boys and girls are expected to complete primary school by 2020, but on recent trends poor boys will reach this target only in the late 2050s and poor girls just before the end of the century. In India, the richest young women have already achieved universal literacy but the poorest are projected to only do so around 2080. Post-2015 goals need to include a commitment to make sure the most disadvantaged groups achieve benchmarks set for goals. Failure to do so could mean that measurement of progress continues to mask the fact that the advantaged benefit the most.

Trends in financing Education for All
New EFA goals after 2015 should set a target for all countries to allocate at least 6% of GNP to education and at least 20% of total government expenditure on education. South and West Asia spent on average 3.7% of GNP on education and 15% of total government expenditure on education. Some countries that were already spending less than 3% of GNP on education in 1999, such as Bangladesh and Pakistan, have reduced their spending further in the last ten years.

Many of the countries furthest from the EFA goals do not sufficiently tap their tax base or devote an adequate share of their revenue to education. In Pakistan, tax revenue is just 10% of GDP and education receives only around 10% of government expenditure. If the government increased its tax revenue to 14% of GDP by 2015 and allocated one-fifth of this to education, it could raise sufficient funds to get all of Pakistan’s children and adolescents into school.

Around the world, governments are grappling with ways to reallocate their education budgets to those children most in need. Allocations per child still do not adequately reflect the costs of delivering quality education to the marginalized. In one of India’s wealthier states, Kerala, education spending per pupil was about US$685. By contrast, in the poorer state of Bihar it was just US$100. Similarly, in Bangladesh almost two-thirds of primary schools received a grant of about US$300 per school in 2010 to help fund improvement plans. However, the amount was the same for every school, regardless of size or location, and the grant was not directed at activities aimed at improving the quality of teaching and learning.

An increase in public spending needs to take into account how the cost of education is currently shared so that the poorest can benefit. Adopting a national accounts approach to education, new analysis for this Report shows that of the total primary education expenditure in Bangladesh in 2009, households covered 38%, donors 11% and the government 51%. This shows that, first, education is far from free and, second, external assistance continues to be very important for certain countries in the region.
Total aid to education in the region more than doubled from US$ 967 million in 2002-03 to US$ 2267 million in 2010 and it was one of only two regions to see its aid increase in 2011. Total aid to basic education fell by 13% to 381 million in 2011. Afghanistan, a low-income country which absorbed almost a sixth of total aid to basic education in the region, saw the level of aid to basic education decrease by 24% in 2011.

**The global learning crisis: action is urgent**

Globally, 250 million children of primary school age are not learning the basics in reading, whether they are in school or not. In South and West Asia, 33% of children of primary school age reached grade 4 and learned the basics, 34% reached grade four but did not learn the basics, and 33% did not reach grade four.

There are wide disparities between countries. In South and West Asia, where 33 in 100 children of primary school age are learning the basics in reading, the share ranges from about 90% in the Islamic Republic of Iran to less than 30% in Pakistan.

Performance in mathematics is worse. In rural India, there are wide disparities between richer and poorer states, but even within richer states, the poorest girls perform at much lower levels. In the wealthier states of Maharashtra and Tamil Nadu, most rural children reached grade 5 in 2012. However, only 44% of these children in the grade 5 age group in Maharashtra and 53% in Tamil Nadu could perform a two-digit subtraction. Among rich, rural children in these states, girls performed better than boys, with around two out of three girls able to do the calculations. Yet despite Maharashtra’s relative wealth, poor, rural girls there performed only slightly better than their counterparts in the poorer state of Madhya Pradesh. Widespread poverty in Madhya Pradesh and Uttar Pradesh affects the chance of staying in school until grade 5. In Uttar Pradesh, 70% of poor children make it to grade 5 while almost all children from rich households are able to do so. Similarly, in Madhya Pradesh, 85% of poor children reach grade 5, compared with 96% of rich children.

Once in school, poor girls have a lower chance of learning the basics. No more than one in five poor girls in Madhya Pradesh and Uttar Pradesh are able to do basic...
In India and Pakistan, poor girls are least likely to be able to do basic calculations
Percentage of all 10- and 11-year-olds able to do a two-digit subtraction, by gender and wealth, selected states/provinces of rural India and rural Pakistan, 2012

Notes: The analysis includes all children aged 10 (India) and 11 (Pakistan), whether in school or not. Richest/poorest refers to children in the bottom/top quartile of the ASER socio-economic status index.
Sources: Analysis by the 2012 ASER India and ASER Pakistan survey teams.
Wide inequalities in learning

The World Inequality Database on Education (WIDE) highlights the powerful influence of circumstances, such as wealth, gender, ethnicity and location, over which people have little control but which play an important role in shaping their opportunities for education. It draws attention to unacceptable levels of inequality in access and learning across countries and within countries, with the aim of helping to inform policy design and public debate.

In the Islamic Republic of Iran, 87% of the richest students achieved the minimum learning standard in mathematics in lower secondary education in 2011 compared to only 36% of the poorest students. Among the poorest, disadvantages widen according to where a young person lives and their gender, with 42% of boys in urban areas achieving the minimum standard compared to 26% of girls in rural areas.

Many young people who have spent just a few years in school do not develop literacy skills – and in some cases even completing primary school is not always a guarantee for literacy. In India, after completing up to four years of school, 90% emerge illiterate. After 5-6 years in school, around 30% still emerge illiterate.

Young people from poorer households are far less likely to be able to read. In Bangladesh, one in three of the poorest young people are literate, compared to almost nine out of ten of the richest.

Poor young women are often most at risk: In South and West Asia, two out of three of young people who cannot read are young women. In Nepal, only 54% of the poorest young women were literate in 2011, compared to 83% of the poorest young men.

Youth literacy is improving, but not always fast enough for most disadvantaged groups: In Bhutan, the poorest young females are not projected to achieve universal literacy until 2083. The poorest young females in Pakistan are not projected to reach the target until the 22nd century. By contrast, Nepal recorded an impressive increase in its youth literacy rate, from 61% in 2001 to 86% in 2011, which benefited both young men and women. As a result, the gap between the poorest and richest young women in the country narrowed substantially over the decade, and the same held for men.
Making teaching quality a national priority

Strong national policies that make teaching quality and learning a high priority are essential to ensure that all children in school actually obtain the skills and knowledge they are meant to acquire. Sri Lanka mentions in its education plan that learning achievement data can be used to identify ways to improve student learning.

In Bangladesh, strategies to improve learning are linked to key indicators designed to measure progress, such as children’s level of learning according to their grade and the subject, the number of schools that receive new textbooks in the first month of the year, and the percentage of teachers who receive continuous professional development. The plan notably includes financial projections for some actions needed to accomplish these objectives, with detailed expenditure data given for items such as school- and classroom-based assessment, curriculum development, textbook distribution, and teacher education and development. Still, the plan expects 28% of the learning and teaching component to be funded by aid. Such gaps raise the question of whether these countries’ aspirations for improved education quality can be met, and underline the need for significant donor support.

In some countries, the engagement of teacher unions has improved policies aimed at helping disadvantaged groups. Sometimes teachers’ union activities may harm student learning opportunities, however. Teachers campaigning for their rights should ensure that they also tackle issues holding back progress in learning, but do not always do so. In India, teacher unions have a major influence on state legislatures and governments. In Uttar Pradesh, this led to higher pay and security of tenure for civil service teachers, but also to neglect of teacher absenteeism and to low quality of teaching.

Between 2011 and 2015, South and West Asia needs to recruit an additional 1 million additional teachers per year to reach a ratio of 32 pupils per teacher in lower secondary education.

A four-part strategy for providing the best teachers

1. Attract the best teachers

The quality of an education system is only as good as the quality of its teachers. It is not enough just to want to teach. People should enter the profession having received a good education themselves. They need to have completed at least secondary schooling of appropriate quality and relevance, so that they have a sound knowledge of the subjects they will be teaching and the ability to acquire the skills needed to teach.

Policy-makers need to focus their attention also on achieving the right mix of teachers, including recruiting teachers from under-represented groups. Flexible policies for entry qualifications may be required to increase the number of female teachers and improve the diversity of the teaching force. In Punjab province, Pakistan, girls’ standardized test scores were higher if they had a female teacher, for example. In Afghanistan, women teachers are urgently needed, but the lack of girls’ education until recently has meant very few women qualified to become teachers. In 2008, less than 30% of those in initial teacher education were female, even though the numbers had been increasing thanks to programmes enabling women to enter teaching with lower qualifications.

Recruiting teachers from ethnic minorities to work in their own communities ensures that children are taught by teachers familiar with their culture and language.

2. Improve teacher education so all children can learn

Initial teacher education should make up for weak subject knowledge. Prospective teachers should ideally enter teacher education programmes knowing enough about the subjects they are going to teach. In some income countries, however, teachers often enter the profession lacking core subject knowledge because their own education has been poor. In such circumstances, initial teacher education programmes need to ensure that all trainees acquire a good understanding of the subjects they will be teaching.
Teachers need to be trained to teach, particularly in early grades. Teacher education programmes need to support teachers in being able to teach early reading skills in more than one language and to use local language materials effectively.

Preparing teachers to support learners from diverse backgrounds is essential. As a result of inadequate training, many newly qualified teachers are not confident that they have the skills necessary to support children with more challenging learning needs.

Pre-service education is vital to provide teachers with the skills to teach multiple grades, ages and abilities in one classroom. For example, a small project in Sri Lanka trained teachers to develop lesson plans and grade-appropriate tasks for classes combining grades 4 and 5. Results found that such methods had a positive impact on pupils’ achievement in mathematics.

Initial teacher education needs to provide classroom experience. To improve teacher quality, Pakistan is committed to replacing traditional training methods such as lectures and seminars with those promoting practical skills and child-centred pedagogy. But trainees still spend only around 10% of their course time on practical teaching experience.

Teachers’ skills need to be improved through ongoing education. Regular supervision and ongoing training have the potential to address knowledge gaps and upgrade and reinforce acquired skills. In the Indian state of Bihar, government school teachers received training to use new learning materials adapted to the local context. Combine with other initiatives, including using village volunteers to provide children with support outside school hours, the programme increased achievement.

Mentoring new teachers once they are in the classroom is vital, particularly in poorer countries where teachers have limited prior practical experience.

Trainers need training too. The key role that teacher educators play in shaping teachers’ skills is often the most neglected aspect of teacher preparation systems. Curriculum reform requires teacher educators to be adequately prepared to orient teachers in curriculum changes. In Rajasthan state, India, the School and Teacher Education Reform Programme, established in 2010, aims to move schooling away from rote learning and towards teaching based on understanding and grounded in the local context of the child. In an innovative move to build legitimacy and ownership among teacher educators, a group made up of faculty from state, private and NGO teacher training colleges and universities was established to help develop teacher education and school curricula and materials.

Distance education can boost countries’ capacity to train teachers. Distance teacher education programmes have the potential to reach more future teachers at lower cost than programmes in teacher education institutions. Costs per student graduating from distance programmes have been estimated at between one-third and two-thirds of conventional programmes. For example, Pakistan’s Primary Teachers Orientation Course cost between US$128 and US$178 per completing teacher, or between 45% and 70% of the costs for conventional university graduates.

3. Get teachers where they are most needed

Inequality in deployment leads not only to fewer teachers in deprived areas but also to disadvantaged students being taught by teachers with weaker subject knowledge, exacerbating inequality in learning outcomes. Unequal distribution of teachers is one reason some children leave school before learning the basics. In Bangladesh, the proportion of students reaching the last grade of primary school is 60% in subdistricts where there are 75 students per teacher, compared with three-quarters where there are 30 students per teacher.

Financial incentives and good housing can promote deployment to remote or rural areas. Safe housing is particularly important in encouraging women to teach in rural areas, as in Bangladesh. Afghanistan aims to increase the number of female teachers by 50% by 2014 under an interim education plan that includes monetary and housing...
Incentives for female teachers, and special teacher training programmes for women in remote areas and women who do not meet current qualification requirements.

Local recruitment of teachers to serve in their own communities can address teacher shortages in remote or disadvantaged areas and can result in lower teacher attrition. However, some of the most disadvantaged communities lack competent applicants where access to primary schooling is low, as is the case with female teachers in Afghanistan.

The unequal allocation of teachers is affected by ethnicity. Because ethnic minorities often receive less education than majority groups, fewer minority group members are available for recruitment as teachers. In India, all states have a caste-based reservation of posts to ensure that teachers are available in more disadvantaged areas and schools, but teachers with lower levels of qualifications are often hired to fill the reserved positions.

Some countries are providing alternative pathways into teaching to attract highly qualified professionals with strong subject knowledge. One approach is exemplified by the Teach for All programmes in a range of countries, including India. Such programmes recruit high-performing graduates to teach in schools that predominantly serve disadvantaged students and often have trouble attracting trained teachers.

4. Provide incentives to retain the best teachers

Governments should ensure that teachers earn at least enough to lift their families above the poverty line and make their pay competitive with comparable professions. In addition, the gap between teachers and other professionals is wider for those with longer experience, because teachers’ salaries do not increase as much as other professionals’ pay over time.

Low pay for contract teachers is not a long-term solution to poor quality education. In South and West Asia, policy-makers have responded to the need to expand education systems rapidly by recruiting teachers on temporary contracts, who are paid a fraction of what civil service teachers earn.

In India, several states no longer recruit civil service teachers, and contract teachers now account for 16% of government primary school teachers. In 2007, contract teachers received 14% of the salary paid to regular teachers in West Bengal, 23% in Andhra Pradesh and 25% in Rajasthan.

In India, most studies find that employing contract teachers does not lead to learning outcomes that are lower than those achieved by civil service teachers, showing that contract teachers can be at least as effective as civil service teachers. However, achievement remains undesirably low in India regardless of the type of teacher a student is taught by.

Recruiting contract teachers on a large scale cannot be seen as a cost-saving solution to the learning crisis in the long term, however, as ultimately such teachers will need training and better pay, and expect the same conditions as their civil service counterparts, increasing the government’s wage bill over time.

Teachers’ salaries – and the rates at which they increase – are conventionally determined by formal qualifications, the amount of training and years of experience. But pay structures based on these criteria do not necessarily lead to better learning outcomes. Using multiple evaluators is one way of producing fair and successful teacher appraisals, but requires considerable time and resources on the part of the evaluators and those being evaluated.

Relating teachers’ pay to the performance of their students, as proposed in Sri Lanka, is an alternative approach that has intuitive appeal. But it is difficult to find reliable ways to evaluate which teachers are the best and add the most value. Performance-related pay can also have unintended side effects on teaching and learning and may reward only those schools and teachers whose students are already performing well, rather than those that have helped children improve the most, to the detriment of disadvantaged learners.

However, a more appropriate way of motivating teachers to improve education quality is to offer an attractive career path, with promotion criteria that take into
account initiatives by teachers in addressing diversity and supporting weak students. Many teachers have limited prospects of promotion, however. Those teaching in remote areas may be especially affected. In Pakistan, teachers have to acquire additional qualifications in order to be promoted, which limits the chances of those working in rural areas, especially women, who have fewer opportunities to study.

**Strengthening teacher governance**

If days are lost because teachers are absent or devote more attention to private tuition than classroom teaching, the learning of the poorest children can be harmed. Across India, absenteeism varied from 15% in Maharashtra and 17% in Gujarat – two richer states – to 38% in Bihar and 42% in Jharkhand, two of the poorest states. There is much evidence of the harm done to students’ learning because of teacher absenteeism. In India, for example, a 10% increase in teacher absence was associated with 1.8% lower student attendance.

Absenteeism can also reinforce gender disparities. In rural Pakistan, where girls and boys are enrolled in separate schools and taught by a teacher of the same gender, 18% of female primary school teachers were absent in 2004, compared with 9% of male teachers.

Understanding the reasons behind these problems is crucial for the design of effective strategies to solve them. Strong school leadership is required to ensure that teachers show up on time, work a full week and provide equal support to all. In some countries, high levels of absenteeism are due to many teachers missing more school days than can be explained by non-teaching duties or illness, rather than extreme absenteeism by a minority of teachers who might be easily identified. In Bangladesh and India, illness accounted for just 10% of absences. In India, official non-teaching duties accounted for only 4%.

Even though teacher absenteeism is widespread in some countries, it is not inevitable, which suggests it is a response to working conditions. In Bangladesh and India, teacher absenteeism was lower when teachers were born in the district where they worked, where the school had better infrastructure and where students’ parents were literate, for example.

Combining monitoring with incentives could be more beneficial than penalties for tackling absenteeism. In 2003–2006, in 120 NGO non-formal education centres in rural Rajasthan, India, photographs were taken of teachers and students every day at the beginning and end of class to monitor attendance and the length of the school day. Teachers’ pay depended on the number of days they taught at least eight students for at least six hours. Over the period of the programme, teacher absenteeism fell from 44% to 21%, showing that linking pay with attendance can be effective. However, it is less clear whether camera-based monitoring of attendance could be scaled up and extended beyond NGO education programmes.

Other interventions aimed at enhancing teacher accountability are often expected to reduce teacher absenteeism, but do not necessarily do so. Greater involvement of parents and the community in school management, for example, had limited impact on teacher attendance in India and no impact on student achievement. Governments should work more closely with teacher unions and teachers to formulate policies and adopt codes of conduct to tackle unprofessional behaviour such as persistent absenteeism and gender-based violence. Codes of practice should be consistent with legal frameworks for child rights and protection and a range of penalties, such as suspension and interdiction, clearly stipulated.

Private tutoring by teachers reinforces disparities between students whose parents can afford to pay the fees and those who cannot. In Bangladesh, about one-third of students in government primary schools and almost two-thirds in secondary schools were privately tutored in 2005, and teachers were reported to expect that students would do most of their learning at home, limiting their classroom responsibility to giving and checking homework. Strategies should be in place to prevent tutoring of pupils by
teachers who are responsible for teaching them in their daily classes. This would ensure that full curriculum coverage is available to all students, even those not able to afford supplementary tutoring.

Private schools that charge low fees are seen by some as one way of expanding access to better quality education for disadvantaged children in areas where government schools are failing. Such schools are also seen as a less expensive way of achieving quality, because they can recruit teachers at lower cost than government schools. Advocates of low fee private schools argue that students in these schools achieve better learning outcomes than students in government schools, but such differences arise partly because teachers in government schools often face more difficult conditions, teaching larger classes and children with a wider diversity of learning needs. In Pakistan, a child in a low fee private school performs better than the average child in the top one-third of children in government schools. However, even in private schools, many pupils barely reach expected competency levels. According to analysis by the Annual State of Education Report team in Pakistan, 36% of grade 5 students in private schools could not read a sentence in English, which they should have been able to do by grade 2.

Curriculum and assessment strategies that improve learning

Policy-makers should ensure the curriculum focuses on securing strong foundation skills for all, is delivered at an appropriate pace and in a language children understand. India’s curriculum, which outpaces what pupils can realistically learn and achieve in the time given, is a factor in widening learning gaps.

Governments should ensure that adequate and relevant resources are in place to support learning from the earliest years and build a culture of reading. One example is the Save the Children Literacy Boost programme, first implemented in a small selection of countries including Nepal and Pakistan. The programme aims to improve early grade reading skills in government schools through teacher- and community-focused interventions. Evaluations showed greater learning gains by children in Literacy Boost schools than by their peers, including a reduction in the number of children whose scores were zero, suggesting that the programme benefited low achievers.

The quality of pre-school education makes a crucial difference to children’s learning in early primary grades. In Bangladesh, primary school children who had attended pre-school performed better than children without any pre-school experience in skills relating to reading, writing and oral mathematics.

Curricula that do not acknowledge and address issues of inclusion can alienate disadvantaged groups within the classroom, and so limit their chances to learn effectively. In some countries, curricula reinforce traditional gender stereotypes. Analysis of secondary school English-language textbooks published by the Punjab textbook board in Pakistan, for example, found that women and girls were seldom represented, or were represented in a discriminatory way. In 20 out of 22 lessons in one English textbook, women were not mentioned at all. Where gender-responsive curricula have been developed, as in projects in Mumbai, India, test scores measuring attitudes on several gender-related issues improved.

Getting out-of-school children back into school and learning is vital. Governments and donor agencies should support accelerated learning programmes to achieve this goal. Established in 1985, BRAC’s education programme in Bangladesh is one of the largest of its kind, with nearly 5 million students having graduated by 2012, of whom over two-thirds were girls. Formal schools can also use accelerated learning in situations where large proportions of students are over-age for their grade.

Technology can greatly extend the reach of educational provision and enrich curriculum delivery. In Pakistan, for example, the positive effects of interactive radio programming on the learning outcomes of grade 1 pupils were greatest in schools categorized as isolated. In such remote contexts, radio addresses
barriers to learning raised by distance, poor access to resources, and an insufficient supply of quality teachers and of teacher supervision and support. Digital Study Hall is a small, innovative project that uses ICT to improve the accessibility and quality of education for disadvantaged children in India and, more recently, in Pakistan and Nepal. An evaluation of four schools in Uttar Pradesh state in India found that, after eight months, 72% of pupils had improved test scores; of these, 44% had an increase greater than 150% and almost a third improved by more than 200%.

Teachers’ ability to use ICT as an educational resource plays a critical role in improving learning. Simply introducing computers in schools is not enough to improve learning, nor can they replace teachers as the primary source of classroom instruction. A study in India evaluated computer-assisted mathematics programmes, implemented both as a stand-alone substitute for regular teaching in an in-school programme and as an after-school programme to reinforce teachers’ curriculum delivery. The results showed that the in-school programme, far from leading to improved scores, actually caused pupils to learn significantly less than they otherwise would have done. By contrast, using the after-school programme to supplement regular teaching brought increased learning gains, particularly for low achievers.

Some countries have made great strides in using national assessments to identify children who need extra attention. Classroom-based learning assessments help teachers identify students who are struggling to learn, diagnose their learning difficulties and choose strategies to support them. Students can also make considerable gains if they are offered more opportunities to monitor their own learning. In the Indian state of Tamil Nadu, primary students learn at their own pace, using self-evaluation cards that can be administered alone or with the help of another child; teachers strategically pair more advanced learners with less advanced ones for certain exercises. Overall, children’s self-confidence has grown as a result of the approach, and learning achievement in the state is high.

Targeted additional support via trained teaching assistants or community volunteers is another key way of improving learning for students at risk of falling behind. In India, schools with trained female community volunteers helped increase the proportion of children able to do two-digit addition. While only 5% of pupils were able to carry out simple subtraction at the start of the study, 52% could by the end of the year, compared with 39% in other classes.