How to escape low-learning traps

11

Tackling the technical and political constraints that misalign education systems requires action on three fronts: investing in better information on learning; mobilizing coalitions for learning; and adopting a more iterative, adaptive approach to change.

Since 1995, England has substantially improved the literacy and numeracy skills of primary schoolchildren using good political strategy and sound technical solutions.[1] As a result, the proportion of students in grade 4 reaching the intermediate benchmark in the Trends in International Mathematics and Science Study (TIMSS) assessment of mathematics shot up from 54 percent in 1995 to 80 percent in 2015 (figure 11.1)—an achievement matched by few other countries.[2] Poor education outcomes had become an important issue in the 1997 national elections, and the new government responded with a national strategy at the start of its term in 1998.[3]

At the heart of the reforms was a redesign of how teachers taught. The new strategy set clear targets for the country, as well as for individual schools, based on regular, publicly available data on student achievement. The targets provided incentives for local education authorities, teachers, and principals. The government adjusted school inspections to reflect the new curriculum; it also strengthened the links between teacher performance and pay. A revamped professional development program, supported by local literacy consultants, helped teachers implement the new strategy. Local governments received substantial new funding for implementation. Literacy and numeracy "hours," introduced as part of the new strategy, significantly improved early learning outcomes.[4] The program has continued to evolve, with more support focused on disadvantaged learners.

Reforms that improve learning rely on good strategies—both political and technical. This chapter draws lessons from various experiences to identify how opportunities for reform emerge and how politicians, bureaucrats, parents, and students can seize them. It focuses on three entry points for addressing systemic political and technical challenges: improving information, building coalitions and strengthening incentives, and encouraging innovation and agility. Most countries need all three.

Improving information

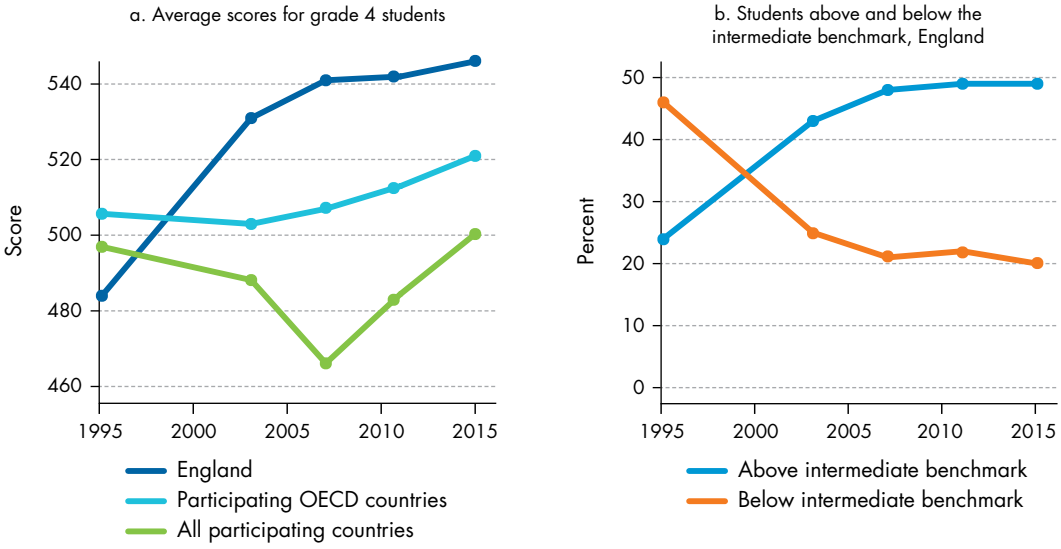
Addressing weaknesses in education systems is difficult when accurate, usable information on learning is lacking. Without it, stakeholders cannot hold politicians and bureaucrats accountable, assess system performance, or design effective policies to improve learning. Though it might not be enough on its own, better information on learning can provide the substance needed for better political strategies and the evidence base needed for effective policies.

Information can increase political incentives to improve learning

The absence of information on learning can weaken the political incentives to provide good public services. Targeted programs or even direct vote buying are sometimes exchanged for political support,

Figure 11.1 Primary school numeracy has increased dramatically in England

TIMSS mathematics scores for grade 4 students, and share of students reaching the intermediate benchmark in TIMSS mathematics assessment



Source: WDR 2018 team, using data from Trends in International Mathematics and Science Study (TIMSS), 1995–2015 (https://timssandpirls.bc.edu/). Data at http://bit.do/WDR2018-Fig_11-1.

Note: Students at the intermediate level are able to apply basic mathematical knowledge in straightforward situations; demonstrate an understanding of whole numbers and some understanding of fractions; visualize three-dimensional shapes from two-dimensional representations; and interpret bar graphs, pictographs, and tables to solve simple problems.

resulting in poor service delivery.[5] Better information can encourage voters to elect politicians who deliver results.[6] For example, using a metric that combines student passing rates with test scores, the federal government in Brazil sets credible education targets that are widely scrutinized (box 11.1). Meeting these targets increases the chances of an incumbent politician being reelected and of bureaucrats keeping their jobs.[7] This example also highlights the value of providing information on learning for areas that correspond with political jurisdictions; because of the overlap, citizens can hold politicians accountable for progress on education targets. But whether information can shift incentives toward a greater focus on learning depends on the broader context. For example, better information in just one sector is unlikely to disrupt patronage networks in countries where clientelism is entrenched across the political system.

Information can also improve incentives in schools

Information on school performance can make local education systems work better. In many developing countries, parents have limited information on the quality of their local schools. In Pakistan, providing parents with information on learning outcomes increased competition between schools. As a result, learning outcomes improved in both public and private schools, and private school fees were cut.[8] Parents can also use information to pressure schools to raise standards.[9] For example, the provision of report cards has strengthened accountability in some countries.[10] Interventions of this kind work best where power relations between actors in an education system are not highly unequal or organized to support patronage networks, and where frontline service providers have autonomy to respond to community demands.[11] When these factors prevent parents' voices from being heard, it can encourage some, especially middle-class parents, to opt out of the public education system, weakening pressure on governments to improve learning across the system.[12]

Information can also help ensure that resources go where they are intended. In the mid-1990s, schools in Uganda received only around a quarter of their intended per student grant allocations. The government began to publish information on the timing and amount of transfers made to districts for school capitation grants so that schools could monitor local administrators. This move increased the share of grant funding reaching schools by reducing capture of funding by district offices. Consistent with the feedback

Box 11.1 Using information to align incentives with learning in Brazil

From 2000 to 2012, Brazil's learning outcomes on the Programme for International Student Assessment (PISA) showed steady improvement, with gains in some subjects concentrated among poorer-performing students. Underlying this progress were reforms that strengthened accountability for system performance, reduced funding inequalities across Brazil's diverse regions, and provided cash transfers to the neediest families. Improvements in information underpinned these reforms.

Better information made it much easier to hold education agencies accountable for learning. A state-level learning assessment introduced in 1995 was extended 10 years later to cover all fourth- and eighth-grade students. The central government combined assessment results with student promotion rates to create an index of basic education quality (Índice de Desenvolvimento da Educação Básica, IDEB) for every school, municipality, state, and region in Brazil. Targets based on this index are used by system administrators at every level, as well as by parents, to hold schools and local administrations accountable for learning.

Better information also raised the incentives for politicians to improve performance. Public awareness of the index is high, with the biannual release of IDEB scores generating extensive media coverage and debate. This not only places education quality high on the political agenda, but also makes it an important factor when citizens choose their local representatives.

Crucially, the government also uses the index to target low-performing schools for additional support and introduce programs to motivate system actors. For example, schools receive bonuses based on annual improvements in IDEB scores, and evidence suggests this move has contributed to better learning.

Sources: WDR 2018 team, based on Bruns, Evans, and Luque (2011); Ferraz and Bruns (2012); OECD (2016); Toral (2016).

loop described in the next section, schools in areas with better access to newspapers benefited the most.[13]

Good information is also vital for monitoring, evaluating, and guiding systems

System managers need information to monitor and analyze system performance. School supervisors need information on student learning outcomes to identify and address poorly performing schools. Good research and evaluation on programs and policies aimed at improving learning can support better implementation by enabling feedback loops. In the early 2000s, Cambodia's scholarship program sought to improve learning outcomes for disadvantaged students. An early evaluation of the program found that it improved attainment and narrowed gender gaps in enrollment, but it failed to reach the poorest children or improve learning.[14] In 2006, as a result of these findings, the government improved the targeting of poorer children. It then experimented with using the scholarships to encourage learning. Introducing merit-based criteria into student selection increased enrollment and improved learning, raising mathematics test scores by about 0.17 standard deviations.[15]

Research and evaluation can also build support for effective programs across political cycles. Oportunidades, Mexico's conditional cash transfer program, has endured since 1997 despite political and economic changes. Because they provided solid evidence of how the program improved the lives of children, impact evaluations were key to the decision to continue the program after a new government was elected in 2000.[16]

But many information and knowledge systems are not serving these purposes

Information needed to improve learning is lacking in many countries. An assessment of capacity to monitor progress toward the Sustainable Development Goals found that, of 121 countries, a third lacked data on learning outcomes at the end of primary school, and half had insufficient information on learning at the end of lower secondary school.[17] Even fewer have the data to track these learning outcomes over time. Information systems in the education sector, which are often weak, are rarely used for decision making, planning, or implementation.

There are many barriers to using information to improve learning outcomes. In Tanzania, widely publicized results from citizen-led learning assessments influenced public perceptions of education and shifted the government's focus toward learning (box 11.2). Yet such direct links between evidence and

Box 11.2 Citizen-led assessments have raised awareness of the learning crisis in South Asia and Sub-Saharan Africa

Citizen-led learning assessments are locally designed measurements of basic reading and mathematics competencies. Typically conducted by networks of civil society organizations, these assessments test children whether they are in or out of school—something that conventional testing cannot do. Their goal is to increase awareness of learning outcomes and to encourage stakeholders to take action to improve learning. Citizen-led assessments have been conducted mainly in South Asia and Sub-Saharan Africa. For example, the Campaign for Popular Education (CAMPE)—a network of over 1,000 nongovernmental organizations (NGOs), researchers, and educators in Bangladesh—began carrying out assessments of this kind in 1999.

Evaluations of these initiatives concluded that:

- The public finds these assessments more salient than larger-scale, more complex national assessments, because the citizen-led assessments focus on a narrower set of basic competencies, starting with recognizing letters and numbers.
- The initiatives successfully disseminated their results and raised awareness about the learning crisis. They also increased the focus on learning in government planning documents.
- In India, partnerships between some state governments and Pratham, an NGO that seeks to improve education quality, have designed interventions to address the problems identified by the Annual Status of Education Report (ASER) assessment. Moreover, the government of India now holds its National Achievement Survey annually (rather than once every three years) to track learning more frequently.

While the assessment results have led to action in some cases, the link to improved learning is not automatic. Over the short period that the ASER in India and Uwezo[a] in Tanzania have been operating, their assessment results do not show any clear overall pattern of increases in learning—although some Indian states showed significant improvements between 2010 and 2016.

Sources: WDR 2018 team, based on Chowdhury, Choudhury, and Nath (1999); Rath and others (2015); R4D (2015).

a. *Uwezo* means "capability" in Kiswahili.

policy making are often missing.[18] Some evaluations take too long to inform decision making; others fail to track key drivers of low system performance. Even where usable information exists, government agencies may lack the incentives or capacity to use it well.[19] Independence also matters: reliable, salient information can provide incentives for better performance, but biased media may protect the interests of particular groups at the expense of better public services. In Argentina between 1998 and 2007, newspapers that received government funding published fewer reports on corruption than did others.[20]

What are the characteristics of an information system that promotes learning (table 11.1)? First, information needs to be credible, politically salient, and publicly available. Second, clear targets for progress

Table 11.1 Principles for making the most of information and the roles that actors can play

Principles for making the best use of information	Roles that different actors can play
• Provide regular, credible, politically salient, and publicly available information on learning. • Set clear targets or expectations for learning, so there is a benchmark for judging performance. • Align information with the political and administrative jurisdictions that have authority to act. • Build information systems that are responsive to the policy cycle and facilitate decision making.	• *Government institutions:* Produce and disseminate national assessment results; conduct in-house evaluations; support education research and evaluation in external research institutes. • *Civil society and private sector:* Produce and disseminate citizen-led learning assessments; use assessments and research to support interventions that improve learning.

Source: WDR 2018 team.

on learning can strengthen incentives by providing measures of system performance. Third, meaningful information on learning needs to be aligned with political or decision-making power, so that the public can hold education decision makers more accountable. Finally, information needs to be usable by policy makers, administrators, and other system actors—that is, it must be timely, accurate, policy relevant, and sensitive to the policy cycle.

Building coalitions and strengthening incentives

Education systems are made up of many actors who pursue interests that do not always align with learning. Addressing this requires action on two fronts. First, coalitions of interest groups are needed to build a consensus around the actions that will strengthen accountability for better learning. This often requires mobilizing support from groups that are not actively involved in agenda-setting or that do not engage with others. Second, the incentives of bureaucrats and other system actors need to align more closely with learning (table 11.2).

Mobilizing support and building coalitions to improve learning

System actors have a better chance of enacting reforms when they act collectively. Some actors have more power to shift policy toward learning, in part because they are better organized.[21] For example, in many countries teachers' unions have a powerful voice in debates on reform, whereas the collective voice of parents and students is often muted.

Mobilizing support and building coalitions of a range of system actors have helped to improve learning. Many countries have built support for proposed policy changes through wide-ranging consultations that try to bring together key interest groups.[22] Peru's Business Association for Education organized an information campaign that helped shift public opinion to support reforms that began in 2006. Government reformers used information on the poor learning outcomes of the education system to mobilize public support for efforts to strengthen teacher accountability, which led to sustained improvements in learning.[23] Alliances between education stakeholders have also formed in some countries to realize the right to education through the legal system (box 11.3).

Though mobilization efforts can be successful at rebalancing interests, they may be less successful at shifting the interests of those opposed to reforms. Education reform is a long process, and well-organized opposition can derail it, particularly during implementation. In Peru, the government successfully mobilized public support to get reforms approved, but it was less successful at getting buy-in from teachers, which led to continued resistance from teachers' unions during implementation. While the broad reform direction remained intact and learning improved, this experience highlights a potential trade-off between managing the politics of reform and getting implementation right. When reformers have to devote effort to managing opposition, that effort can divert attention from implementing reforms well. Lack of buy-in from important groups deters them from contributing to policy design or implementation, thereby undermining the sustainability of the reform.[24]

Building broad-based coalitions of stakeholders is important at all stages of the policy cycle. Malaysia created a performance delivery unit to spearhead comprehensive reforms in many sectors, including education. The unit uses "labs" that build coalitions of stakeholders and involve them in all stages of reform,

Table 11.2 Principles for building effective coalitions and the roles that actors can play

Principles for building effective coalitions	Roles that different actors can play
• Mobilize support for reforms through clear articulation of the problems of low learning. • Develop a political strategy to mobilize support and build long-term coalitions for learning. • Avoid direct confrontation in favor of negotiation and compensation where possible. • Encourage strong partnerships between schools and communities. • Strengthen the capabilities of organizations responsible for education services.	• *Government institutions:* Develop open, inclusive spaces to discuss reform and identify technically and politically feasible solutions; build the appropriate institutional capacity. • *Civil society and business organizations:* Advocate for better education systems; support community and parent action at all levels to improve outcomes. • *Teachers and unions:* Advocate for system improvements; use system knowledge to engage in debates on reform.

Source: WDR 2018 team.

Box 11.3 Using the legal system to press for change

With more than 80 percent of national constitutions recognizing the right to education, courts have become an increasingly important arena for holding governments accountable for education policies and practices.

In recent years, India and Indonesia have seen a significant increase in education rights litigation. In India, this trend has been driven by the adoption in 2009 of the landmark Right of Children to Free and Compulsory Education Act. Cases have included demands to ensure equal access to education, the fulfillment of minimum service standards, and assurance that governments will fulfill their spending obligations. Many of these cases have been successful. The Indian Supreme Court has consistently ruled in favor of upholding quotas for poor children in private schools. The High Court in Uttarakhand required the state government to adopt minimum qualification standards for teachers. And in Indonesia, parents succeeded in enforcing constitutional provisions that obligated the government to spend 20 percent of its budget on education.

These cases have often been brought by individuals or small groups, with nongovernmental organization (NGO) activists and teachers' unions providing technical and financial support. An assessment of the impact of litigation of this kind in India and Indonesia found the following:

- The extent to which the legal system has been used to press for policy changes depends significantly on the nature of the court system, the presence of support structures for legal mobilization, and the ideology of the courts.
- Using education rights litigation effectively is conditional on judges who are open to such cases; civil society groups that can help citizens press their claims; and broader political mobilization.
- Policy-oriented litigation has mainly served the interests of poor or marginalized groups, even though sections of the middle class have been centrally involved in much of the litigation. Gains have largely come through better access to education, although successes have often been at the expense of quality education for the middle class.
- Litigation as a strategy for improving learning outcomes has its limitations. Often, judgments need to be enforced by the same public officials who were the target of the initial lawsuit. Even when judgments are implemented, they are more often about ensuring access than improving learning. Courts typically lack the necessary expertise on learning, especially where information on learning outcomes is scarce.

Source: WDR 2018 team, based on Rosser and Joshi (2017).

from design to implementation.[25] Stakeholders typically come together in the labs for six to nine weeks at the start of reforms to discuss priorities, agree on performance indicators, and produce implementation plans. During implementation, minilabs bring stakeholders together to adjust plans. Programs introduced under the process are credited with increasing grade 3 literacy rates in Malaysia from 89 percent in 2009 to close to 100 percent in 2012. The approach has been exported to other countries, including India, South Africa, and Tanzania (box 11.4).

Without efforts to build coalitions for learning, reforms are less likely to endure. Even if evidence shows that the reforms improve learning, their sustainability is at risk when they are misunderstood or unpopular among system actors. In Poland, large-scale changes in the structure of the education system were introduced in 1999 as part of broader decentralization reforms. These reforms have been credited with improving student learning outcomes significantly.[26] At the outset, efforts to build a supporting coalition were only half-hearted, and despite the learning gains, the reforms have remained unpopular. The election of a new government in 2015 led to heated debate on whether to scrap key elements of the original reforms.[27] Building a coalition may require better communication strategies—or it may require changing the reform design, to one that is second-best technically but easier to implement and sell to stakeholders.

A gradual, negotiated approach to reform may work better than confrontation. Where coalitions of system actors foster collaboration around shared goals, reforms are more likely to succeed. The history of reforms to improve teaching in Chile demonstrates how gradual, negotiated reforms can build strong coalitions for change (box 11.5). Since Chile's return to democracy, successive governments have adjusted the working conditions of teachers to improve their welfare, while also linking pay and career development more closely to performance. These changes

Box 11.4 Using "labs" to build coalitions for learning

Rapidly deteriorating results on school-leaving examinations, together with other newly available information on poor system performance, motivated policy makers in Tanzania to launch the ambitious Big Results Now in Education (BRN) program in 2013. The BRN adopted a "service delivery" approach that was first introduced in the United Kingdom in the early 1990s and then adapted successfully in Malaysia in 2009.

At the heart of the approach was a six-week-long "lab" to identify priority reform areas and develop mutually agreed-on delivery plans. The lab brought together all the key system actors—government officials, academics, teachers' unions, development partners, civil society organizations—at a level senior enough to ensure follow-through. Together, the lab participants drafted nine key initiatives, developed step-by-step implementation plans, and assigned responsibilities for those steps.

The lab process made it possible to introduce a complex package of politically sensitive reforms. For example, the government introduced monetary and nonmonetary incentives to reward the most improved schools, along with accountability measures that used public examination results to rank schools. The BRN also introduced, for the first time, a national sample-based assessment to measure early grade literacy and numeracy. Communication campaigns succeeded in generating very high levels of public awareness of the BRN's objectives nationwide.

Although the program has been running for only four years, there are signs that it has begun to improve learning outcomes. However, the program has not been without its difficulties; for example, a recent review highlighted the difficulties in coordination between the government agencies responsible for education. But over the past few years, examination results have slowly improved, and primary school students have made gains in early grade reading.

Sources: WDR 2018 team, based on Sabarwal, Joshi, and Blackmon (2017); Todd and Attfield (2017); World Bank (2017b).

Box 11.5 Reformers in Chile negotiated changes gradually

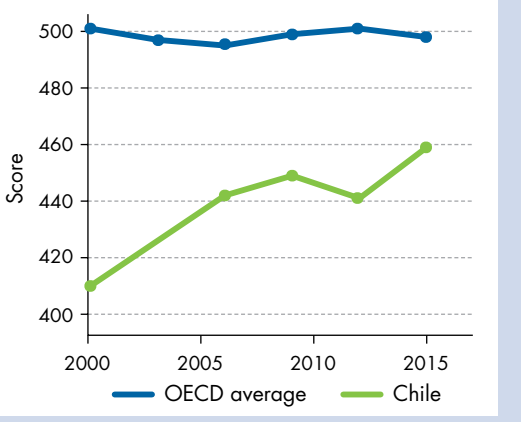
In the early 2000s Chile's education system registered significant, sustained improvements in learning levels. The proportion of 15-year-olds who achieved reading scores at or above a Programme for International Student Assessment (PISA) level of proficiency increased from 52 percent to 69 percent between 2000 and 2015 (figure B11.5.1).

Much of the improvement was attributable to the Sistema Nacional de Evaluación de Desempeño (National Performance Evaluation System; SNED) program implemented in 1996. This program began by awarding teacher bonuses based on school-level indicators of performance. In 2004 individual teacher incentives were introduced, based on mandatory performance evaluations of public school teachers. By the end of the 2000s, these incentives accounted for 15–25 percent of the average teacher salary. Rigorous evaluations of the group-based program revealed that the incentives significantly improved student learning.

The gradual shift from school to individual incentive payments was a pragmatic attempt to address the potential

Figure B11.5.1 Reading scores have improved in Chile

PISA reading scores



Source: WDR 2018 team, using data from the Programme for International Student Assessment (PISA) (www.oecd.org/pisa). Data at http://bit.do/WDR2018-Fig_B11-5-1.

(Box continues next page)

Box 11.5 Reformers in Chile negotiated changes gradually *(continued)*

opposition of teachers' unions to performance-related pay. Before implementing a mandatory program for all teachers, the administration introduced a voluntary individual assessment and incentive system that set a precedent for teacher evaluation. Because these steps allowed time to adjust and gain support for the new system, they were key to its success.

Establishing credibility with the teachers' union early on was another key strategy. The Teacher Statute passed in 1991 conferred civil service status on teachers, guaranteeing associated job benefits, protection, and an opportunity for centralized wage negotiations. This move sent a positive signal to teachers. Trust between the union and the government increased further through regular discussions on the implementation of reforms. As part of these efforts, union members codesigned the performance evaluations used for the incentive program.

A final factor in the successful adoption of these reforms was their inclusion in a broader set of reforms that increased resources for education and raised teachers' salaries. SNED became part of the teacher professionalism pillar of the Full School Day reform package. More teachers were covered by the reforms, and the incentive amount was increased. Salary increases before the start of the program may have helped to lessen opposition to the mandatory individual pay incentive.

As a consequence, the Chilean programs remain one of the few long-running "pay for performance"–type reforms that have been successfully scaled to the national level. In other contexts, such reforms have often been unpopular, but in Chile the reforms continue: in 2016 new legislation passed to widen the coverage of the incentive program, while strengthening teacher professional development.

Sources: WDR 2018 team, based on Avalos and Assael (2006); Contreras and Rau (2012); Delannoy (2000); Mizala and Schneider (2014); OECD (2016); World Bank (2017a).

have contributed to Chile's steady improvement in international learning assessments.

Negotiations can also include strategies to compensate actors disadvantaged by reform. One such strategy is to provide targeted assistance to students harmed by reforms to improve system efficiency. Additional services for children affected by school closures, for example, can ease school consolidations.[28] Another strategy is to use "dual-track" reforms to protect some incumbents from the negative impacts of reforms. For example, pay-for-performance programs in Peru and in the District of Columbia in the United States were initially introduced voluntarily.

Compensating perceived losers can help get reforms approved, but that approach comes with risks. In 2005 the Indonesian government introduced a comprehensive reform program aimed at raising the competencies of teachers. Teacher certification was the centerpiece of the reforms, with teachers required to pass a competency test to continue teaching.[29] In exchange for these new obligations, the negotiated agreement provided certified teachers with an additional monthly allowance as large as their base salary. But early in implementation, the requirements for certification were diluted because of political pressures, so that teachers were no longer required to pass a competency test. In the end, the reforms had little impact on teacher competencies or student learning, but they had a major impact on public spending.[30] By 2011, with less than a third of teachers certified, 9 percent of the education budget already went to certification allowances.[31]

Building partnerships between schools and communities

Sustained reform requires strong partnerships between schools and communities. Where incentives for systemwide reform are weak, local action can substitute. In South Africa, the political and economic context has constrained efforts to improve education performance in some provinces, but local progress has been made possible in some schools through strong partnerships between parents and schools.[32] Local partnerships are particularly important in fragile and conflict-affected areas.[33] For example, a program that built community-based schools in Afghanistan reduced the distance to school, increased enrollment, and improved learning outcomes, particularly for girls.[34] Yet these local partnerships tend to work best when supported by responsive higher-level institutions, which are sorely lacking in fragile environments.

Aligning the incentives and capacity of system actors with learning

The success of reforms depends on the ability, incentives, and motivations of public officials. Managing

education systems effectively requires competent public service–oriented personnel, which in turn means commensurate pay and working conditions.[35] But if the political economy of education is misaligned with public goals, candidates with less desirable attributes may be attracted to public service. In Mexico, teachers were often hired based on political patronage rather than merit, which resulted in lower-quality hires compared with those in test-based systems.[36]

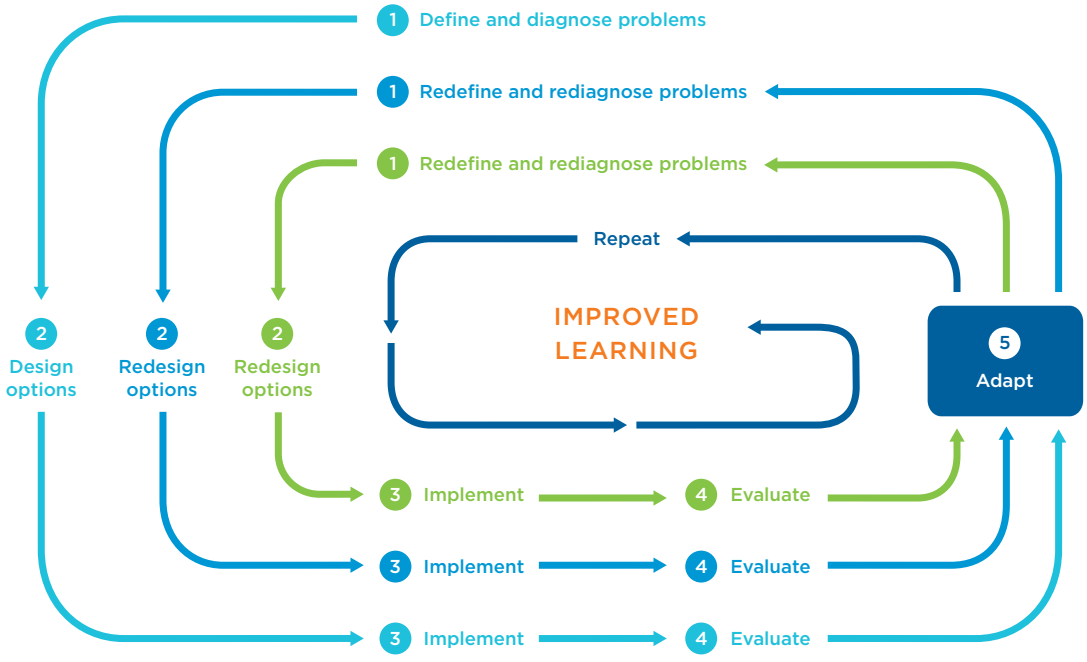
Efforts to build the capacity of bureaucracies have been disappointing.[37] Even where individual capacity is built successfully, the incentives to use this capacity to develop and implement effective policies are often absent.[38] Put another way, building organizational capability to improve education outcomes tends to work best when incentives in education systems are aligned with the same goals. For example, where politicians face stronger incentives to provide public goods, this has inspired efforts to build professional bureaucracies that can deliver better public services.[39]

Encouraging innovation and agility

Political and technical complexities make it challenging to design and implement policies to improve learning. Some parts of the solution to low learning are relatively straightforward. Inadequate infrastructure and learning materials, while logistically challenging, can be addressed directly: the technologies needed are well known, and most education systems have enough experience solving these issues. But improving what happens in the classroom is much harder. It involves changing student and teacher behavior, as well as supporting teachers in efforts to tailor their teaching to the needs of their students. The traditional approaches to reform—in which predefined interventions are introduced with little room to adapt during implementation—are rarely effective.

Learning reforms need a more agile approach, with room for adaptation.[40] This is not the same as experimenting with different interventions in pilot projects. Rather, it means testing approaches at scale in their political and economic contexts and using the existing capabilities of implementing agencies. A recent review of complex public management reforms, including in education, highlighted the key elements of successful reforms.[41] Those reforms started out with a clear articulation of the problem, together with an initial set of potential solutions, and then adopted solutions that emerged from experimentation during implementation (figure 11.2). Final interventions tended to be hybrids, drawing on local and global evidence.

Figure 11.2 Problem-driven iterative adaptation drives successful reforms



Source: Adapted from Andrews, Pritchett, and Woolcock (2017).

Searching for solutions to local problems

All systems have some parts that work well; these parts can be used to identify technically and politically feasible approaches to improving learning. In Misiones Province, Argentina, student dropout rates were high. But some schools bucked the trend: teachers agreed on informal learning contracts with parents instead of blaming them for poor student performance. Schools that adopted more constructive approaches to parent-teacher relations saw dropout fall significantly.[42] Schools approach challenges in different ways, so analysis of positive outliers could be useful for policy making (box 11.6).

Local innovations, however, may not be enough to close the learning gap between countries. Employing principles from the growing global knowledge can provide useful ideas for improving learning in specific contexts. A more iterative approach to system change can be a way to adapt interventions inspired by global experiences to local contexts.

Integrating an iterative and adaptive approach to policy making and implementation

Recent examples show how an iterative, adaptive approach can strengthen education systems and improve learning. In India, an experiment showed that grouping children by ability and using level-appropriate teaching along with continual assessment improved students' reading abilities. Recognizing that a small-scale experiment was no guarantee of success in the government system, Pratham—the NGO responsible for the original evaluation—experimented with different approaches to level-appropriate teaching in government schools. This experimentation tested the assumptions of the original model and identified factors behind the earlier success. It then identified two approaches to implementation that could work at scale.[43] Even in fragile states, where system capabilities are limited, iterative approaches like this have been successful at restoring essential education services (box 11.7).

Policy makers can test policies before introducing them more widely. Whole-system reforms are difficult to evaluate because they lack an appropriate counterfactual, making it difficult to trace the impacts of policy change and adapt strategies to improve learning. Small pilots can overcome these difficulties, but it is hard to assess whether they will be effective without the attention and nurturing that can occur in a pilot. As a middle way, China and other countries have tested new policies in specific regions.[44] Policy makers first identify

Box 11.6 High-performing schools in the West Bank and Gaza offer some learning lessons

The United Nations Relief and Works Agency (UNRWA) provides over 300,000 refugees in the West Bank and Gaza with basic education services. In multiple rounds of international assessments, UNRWA schools outperformed public schools, delivering the equivalent of one year's additional learning despite the lower socioeconomic status of UNRWA students and lower per student spending.[a] Drivers of their better performance include:

- *Greater parental involvement* in school activities and a close partnership between schools, households, and refugee communities, which contributes to a shared sense of purpose and collaborative mechanisms for monitoring and support.
- *More effective teacher support systems*. Teachers are trained using standards that clearly articulate what students should know and be able to do in each grade. Although preservice training is similar in UNRWA and public schools, UNRWA teachers complete a two-year training program in classroom instruction, resulting in teaching approaches that are better aligned with learning.
- *Assessment and evaluation*. UNRWA schools have more rigorous, more frequent student assessments and teacher evaluations than public schools.
- *Effective school leadership*. UNRWA invests in developing qualified principals who can support their teachers effectively.

Identifying lessons from high-performing schools is not always easy. Some factors such as school leadership that drive high performance may be idiosyncratic, making them hard to replicate. Drawing on large samples of schools can help identify more generalizable lessons.

Source: WDR 2018 team, based on Abdul-Hamid and others (2016).

a. This comparison is for UNRWA schools and public schools in Jordan.

Box 11.7 Burundi improved education services by iterating and adapting

After a protracted civil war and long peace process in Burundi, a new government and new constitution in 2005 led to a renewed emphasis on public services. Many schools had been destroyed, and management systems had collapsed. As the new government took office, primary net enrollment rates stood at just 56 percent, student-classroom ratios were 87:1, and 20 students shared a single mathematics textbook on average.

The government prioritized reducing the high student-textbook ratios and delays in delivery as part of a broader rapid-results initiative that had three stages:

- *Shaping*. In this stage, a reform team identified why there were not enough textbooks. To ensure practical solutions, the team comprised stakeholders from across the education system, including provincial education directors and parent-teacher associations.
- *Implementation*. Senior government officials gave the team authority to implement its new approach in a single province. As implementation progressed, the team regularly adjusted its action plan.
- *Planning for sustainability*. After reviewing the intervention's performance, senior government officials decided how to scale up the program to other provinces.

The initiative far exceeded its targets. Textbook availability increased, and average delivery times fell from over a year to 60 days. This success led to similar initiatives to tackle teacher payroll problems, as well as many other service delivery problems beyond education.

Source: WDR 2018 team, based on Campos, Randrianarivelo, and Winning (2015).

the main problems; then they agree on which solutions to subject to experimentation. They develop proposals for experiments, in part by analyzing solutions adopted in other countries to tackle similar issues, with different regions trying alternatives. Successful policies are then rolled out to other regions. Belgium and the Netherlands have adopted similar approaches.[45]

Giving stakeholders the authority and autonomy to adopt such approaches runs counter to how many education agencies operate. Closed systems limit the autonomy of system actors and judge performance based on compliance with formal rules over resource use, leaving little room for innovation. By contrast, more open systems that have a sharper focus on outcomes are more likely to see greater innovation across the education system (table 11.3).[46]

Good information systems and broad-based coalitions are also needed

A capacity to learn from the implementation of new innovations is vital. Information systems that provide rapid, regular, accurate feedback are crucial for more adaptive approaches to improving learning. Some countries are beginning to build these kinds of capabilities into their education agencies. Peru's MineduLAB in the Ministry of Education is a collaboration between government agencies and experienced researchers.[47] The lab introduces innovations directly

Table 11.3 Principles for encouraging innovation at scale and the roles that actors can play

Principles for encouraging innovation and agility in approaches to improving learning	Roles that different system actors can play
• Adopt a more iterative and adaptive approach to the design and implementation of policies. • Identify promising solutions from within the education system, as well as the global knowledge base. • Establish information systems that provide rapid feedback to support implementation. • Develop the capability of education agencies, an enabling environment, and autonomy to encourage innovation.	• *Government institutions:* Develop an enabling environment and incentives for innovation and a more iterative approach. • *Civil society and private sector providers:* Experiment with different approaches to improving learning.

Source: WDR 2018 team.

into government schools, and information from ministry systems (rather than individual data collection exercises) must be used by researchers to evaluate the new programs. Results must also be available within the same academic year. In MineduLAB's first year, innovations included providing more comparative information on school performance and introducing modules to encourage primary school students to adopt a growth mindset. The program is still new, but its approach is promising.

To be sustainable, these approaches need broad support. Though this iterative approach can help in developing more effective strategies, it comes with risks for actors in education systems. Politicians can incur significant costs if experiments fail or divert resources away from more traditional activities. Students can also suffer if new approaches disrupt their schooling without improving it. Yet some risk-taking is vital if education systems are to improve learning. Mobilizing stakeholder support and providing space for consultations from the outset can reduce the risks.

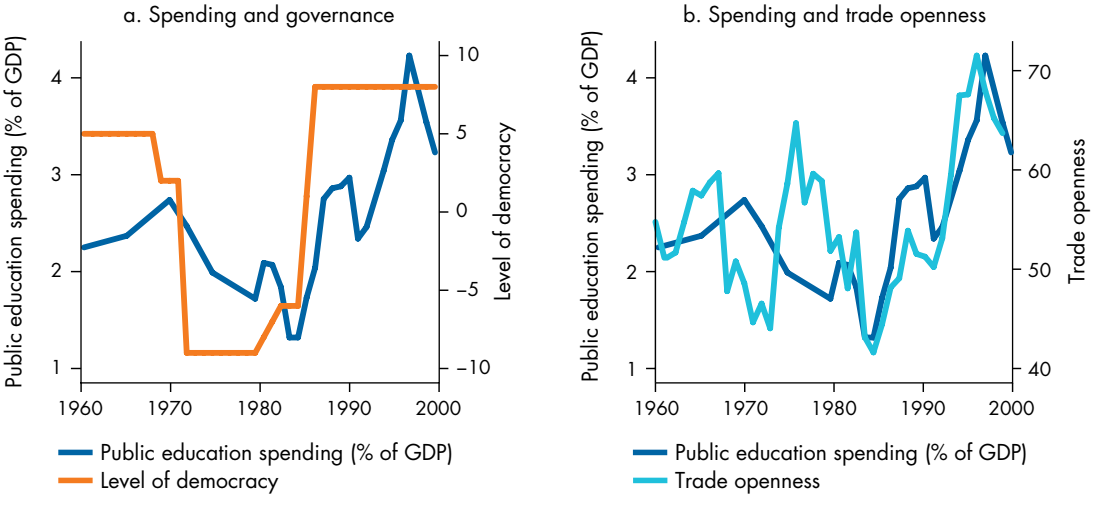
Education systems need to be agile to exploit critical moments

Politicians and education system managers also need to respond quickly when changes create opportunities to improve broad-based learning. This context changes infrequently, but when it does change it provides opportunities for significant changes in education policy. During the martial law period of the 1970s in the Philippines, government spending on education fell below 2 percent of the gross domestic product (GDP). In the 1980s, the People's Power Revolution restored democratic rule, ushering in a new government that was more responsive to demands for broader access to education. Trade liberalization increased the demand for skilled workers, further raising the incentives for better education. With these societal shifts, public investment in education increased by 2 percentage points of GDP between 1980 and 2000 (figure 11.3).

Critical junctures often arise from broader decentralization and reform efforts, as in the education reforms in Latin America during the 1990s.[48] Beyond shifting responsibility for education services to local governments and schools, decentralization can provide opportunities to better align important elements of education systems. After early decentralization reforms in Poland, the government introduced formula-based funding mechanisms to link school funding levels more closely to school needs. This

Figure 11.3 Trends in public education spending in the Philippines track changes in the broader political and economic context

Public education spending as percentage of GDP, and measures of democracy and trade openness, the Philippines (1960–2000)



Source: Ansell (2006). Adapted with permission from Ben W. Ansell; further permission required for reuse. Data at http://bit.do/WDR2018-Fig_11-3.

Note: Level of democracy is measured by the polity score, which consists of an evaluation of the competitiveness and openness of elections, the nature of political participation in general, and the extent of checks on executive authority. A high positive score corresponds to strong democratic institutions; negative scores indicate more autocratic systems. Trade openness is measured by the inverted Hiscox Kastner score, which gauges the degree to which a country deviates from an optimal level of imports from a hypothetical protection-free environment. Higher scores indicate greater openness.

shift aligned funding with new realities, helping the system reduce inefficiencies.[49]

To innovate effectively—as indeed to build coalitions and use information for reform—education systems need strong, competent leadership. Research highlights three key attributes of effective leaders. First, they can clearly articulate problems and present clear visions for how to tackle them. Second, they mobilize human and financial resources around agreed-on goals and build coalitions to advocate for change and support implementation. Finally, effective leaders focus on identifying solutions that fit the institutional context.[50]

How can external actors support initiatives to improve learning?

Support the creation of objective, politically salient information

Global education initiatives can improve political incentives for action. The Millennium Development Goals (MDGs) were ssuccessful at mobilizing international and domestic actors on development challenges. Though the global impact of the MDGs—including the education goal—is still being debated, the legitimacy that progress could confer on weak or unstable governments was often a powerful incentive for change. Many countries introduced reforms to expand access to schooling in successful efforts to meet the MDGs. The Sustainable Development Goal (SDG) indicators, which will include a set of comparable learning measures, could play a similar role by motivating countries to shift their focus from schooling to learning.

By supporting improvements in learning assessment, external actors can help shine a light on low learning levels and their causes. For one thing, they can help developing countries participate in regional and global assessments, which are an important tool for opening up spaces for change and influencing policy debates.[51] They could also help ensure that test items are linked across countries and across time, which would allow results of different assessments to be more comparable. External actors can also help by supporting national assessment efforts, so that they can provide more politically salient information on learning. The READ program, a partnership among development partners, education practitioners, and low-income country governments, has helped countries strengthen their national assessments, while also supporting their participation in international assessments.[52]

Beyond support to measure learning, external actors can also help build global knowledge on ways to diagnose system weaknesses and improve learning. This knowledge base has expanded rapidly, but more research is needed on how to adapt promising interventions to specific contexts. External actors can fund research and encourage collaboration among practitioners, researchers, and government institutions to build capacity and locally relevant knowledge on effective ways to improve learning.

Encourage flexibility and support reform coalitions

External actors can also encourage inclusive reforms through project development activities, policy discussions, and support to other system actors. Though there has been much progress on the aid effectiveness agenda first agreed on in the Paris Declaration in 2005, there is still room for improvement. A key aspect of this agenda is building inclusive reforms. But progress in this area has been slow. Across all sectors, only about half of countries were judged to have systems for meaningful dialogue with civil society organizations. Moreover, dialogue between the public and private sectors was judged to be difficult and rarely led to action.[53] Tackling these issues is vital for the emergence of the coalitions needed to design and implement effective policies.

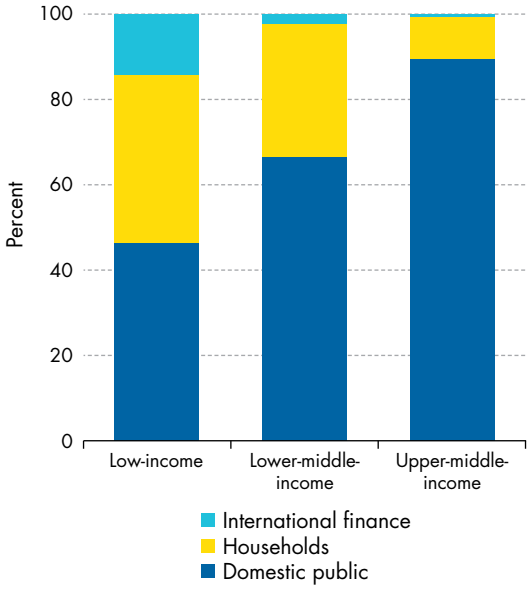
In education, consultative groups and civil society organizations could promote more inclusive reforms. The Civil Society Education Fund (CSEF), launched in 2009, has supported national education coalitions in more than 40 developing countries, and the number of civil society organizations involved in education planning and policy has expanded rapidly.[54] For example, the fund has supported the Ghana National Education Campaign Coalition (GNECC) in lobbying for more participatory education planning, policy formulation, and monitoring. GNECC members have worked together to present new findings on education issues during annual education review meetings and to advocate for change.[55]

Link financing more closely to results that lead to learning

While the overall contribution of development assistance to country investments in education is relatively small, it is important in some low-income countries (figure 11.4). In 2015 international finance accounted for 14 percent of education spending in

Figure 11.4 Most funding for education comes from domestic sources, but international finance is important for low-income countries

Estimated sources of education spending, by income group (2015)



Source: Education Commission (2016). Data at http://bit.do/WDR2018-Fig_11-4.

low-income countries. But support is much higher in some countries. In Mali, development assistance accounted for approximately 25 percent of public education spending between 2004 and 2010. Moreover, global estimates of the investments required to raise learning as part of the SDGs imply a need to increase development assistance, particularly to low-income countries.[56]

But external actors must provide financing in a way that aligns systems with learning. Projects aimed at narrow aspects of reform or on specific interventions, run the risk of exacerbating existing misalignments, if weaknesses in other parts of the system are not tackled at the same time. For example, projects that support professional development activities but are not aligned with career development incentives are likely to be less sustainable. External actors can support alignment by shifting the focus of systems toward learning, linking their financing to results rather than the provision of specific inputs or activities.

More development partners are using results-based financing in education. These approaches seek to align system components by linking financing to results. They shift the emphasis from inputs toward performance. Some financing is linked directly to student achievement. For example, a U.K. program that supports the education system in Ethiopia provides an agreed-on amount for net increases in the number of students who pass the examination at the end of lower secondary education. The multidonor-financed Big Results Now in Education program in Tanzania links financing to student learning and to intermediate outputs that support improvements in education quality. The ultimate impact of these approaches on system performance is still being evaluated, since they are new. But initial findings suggest they have the potential to tackle system-level constraints and improve system performance.[57]

* * *

There is nothing inevitable about poor learning outcomes, whatever a country's level of development. Some countries have used well-documented reforms to escape low-learning traps, successfully reorienting their systems toward learning. Others have achieved learning outcomes that far exceed what their development level would predict, indicating that they escaped the trap in the past. Though there is no single recipe for achieving broad-based learning, these cases identify three entry points for getting under way. First, deploy information and metrics to shine a light on the hidden exclusion of low learning. Second, build coalitions that can better align incentives toward learning, especially the learning of the most disadvantaged. Third, commit to innovation and agility, using feedback loops for continuous improvement. None of this is easy, but history shows that achieving education's promise will depend on taking up the challenge.

Notes

1. Cassen, McNally, and Vignoles (2015); Stannard and Huxford (2007); Tanner and others (2010).
2. Mullis and others (2016).
3. The numeracy strategy was introduced in 1999.
4. Evaluations of different aspects of the literacy and numeracy program are summarized in, for example, Machin and McNally (2008); McNally (2015); and Stannard and Huxford (2007).
5. Khemani (2015).
6. Banerjee and others (2011); Brender (2003).
7. Dias and Ferraz (2017); Toral (2016).
8. Andrabi, Das, and Khwaja (2015).
9. Barr, Packard, and Serra (2014).
10. Snilstveit and others (2015).
11. Carr-Hill and others (2015); Grandvoinnet, Aslam, and Raha (2015).
12. Banerjee and others (2010); World Bank (2017c).
13. Reinikka and Svensson (2011).
14. Filmer and Schady (2009).
15. Barrera-Osorio and Filmer (2016).
16. UNDP (2011).
17. UIS (2016).
18. Rath and others (2015).
19. Sutcliffe and Court (2005).
20. Di Tella and Franceschelli (2011).
21. Corrales (1999).
22. Bruns and Schneider (2016); Corrales (1999).
23. Bruns and Luque (2015).
24. Bruns and Luque (2015); World Bank (2017c).
25. Sabel and Jordan (2015); World Bank (2017b).
26. Jakubowski (2015); Jakubowski and others (2010).
27. Wojciuk (2017).
28. Beuchert and others (2016).
29. Chang and others (2013).
30. de Ree and others (2015).
31. Chang and others (2013).
32. Levy and others (2016).
33. Mansuri and Rao (2013).
34. Burde and Linden (2012).
35. Besley and Ghatak (2005); Finan, Olken, and Pande (2015).
36. Estrada (2015).
37. World Bank (2017c).
38. Andrews, Pritchett, and Woolcock (2017).
39. Besley and Persson (2009).
40. Andrews, Pritchett, and Woolcock (2017).
41. Andrews (2015).
42. Green (2016); Pascale, Sternin, and Sternin (2010).
43. Banerjee and others (2016).
44. Heilmann (2008).
45. Blanchenay (2016).
46. Andrews, Pritchett, and Woolcock (2013).
47. J-PAL and IPA Perú (2013).
48. Grindle (2004).
49. Alonso and Sánchez (2011).
50. Leftwich (2009).
51. Devarajan and Khemani (2016).
52. World Bank (2015).
53. OECD and UNDP (2016).
54. UNESCO (2015).
55. CSEF (2014). The CSEF is coordinated by the Global Campaign for Education (GCE), with funding from the Global Partnership for Education.
56. Education Commission (2016).
57. Sabarwal, Joshi, and Blackmon (2017).

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