7. System coherence for learning: applications of the RISE education systems framework

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INTRODUCTION

In recent decades, the education systems in most low- and middle-income countries (LMICs) have succeeded in rapidly expanding access to schooling so that, today, most children attend at least some amount of schooling. However, this expansion in access to schooling has not produced commensurate improvements in learning outcomes. A global learning crisis has been widely acknowledged (World Bank, 2018; Angrist et al., 2021; Beatty et al., 2021; UNESCO et al., 2021).

There are many potential drivers of low learning in LMICs. For example, financing may be inadequate (UNESCO, 2015); teaching and learning materials may be lacking (UNESCO, 2016); teachers may be in short supply or poorly prepared (Education Commission, 2019); or schools may be poorly managed (Lemos et al., 2021). These challenges represent proximate determinants of the learning crisis, or the determinants most directly associated with low learning (Pritchett, 2015).

Furthermore, the effects of many proximate determinants of learning vary widely across contexts (Pritchett, 2021). One study finds that the effect of smaller class sizes varied from negative to zero to positive based on the setting (Wößmann & West, 2006). A recent report by the World Bank compared the effectiveness of different categories of learning interventions. Programmes in one category designated as a ‘good buy’ (structured lesson plans with linked materials, teacher training and monitoring) ranged from the least effective (i.e., a negative impact on learning outcomes) to the second most effective of all included interventions (World Bank, 2020).
A systems thinking approach seeks to understand what system dynamics produced the proximate determinants of low learning. It further helps diagnose the system dynamics that drive the varied effects of proximate determinants in different contexts. Ultimately, systems thinking seeks to inform action to address underlying system dynamics.

The Research on Improving Systems of Education (RISE) programme applies systems thinking and analysis to understand why learning is low and how education systems can shift to improve outcomes. The programme’s research agenda is anchored around an education systems framework that specifies the elements, relationships and feedback loops in education systems and the ways these interact to achieve or frustrate children’s learning. The framework hypothesises that low learning is the result of education systems that are primarily coherent for schooling rather than for learning and that systems deliver learning when their elements are coherent for learning objectives.

The RISE systems framework helps to understand success, diagnose failure and inform actions that, taking into account the interactions in a system, could bring about change. It can be used to understand education system outcomes at different levels of schooling (e.g., primary, secondary) and different levels of the education system (e.g., municipal, state, national). This chapter will describe the RISE education systems framework and provide two applications of the framework to empirical examples of system coherence and incoherence for learning.

THE RISE EDUCATION SYSTEMS FRAMEWORK

The RISE education systems framework provides scaffolding for considering the key elements, actors and relationships in an education system and the ways these interact to produce a system’s outcomes (Pritchett, 2015). The RISE framework is rooted in the conceptualisation of service delivery systems presented in the 2004 World development report: Making services work for poor people. This report frames service delivery systems as a set of interconnected principal–agent relationships, which are referred to as an accountability triangle (World Bank, 2004). This conceptualisation, in turn, was underpinned by the ‘strategic tri-
angle’ articulated in Moore’s (1995) *Creating public value: Strategic management in government*. The RISE framework adapts the WDR accountability triangle to describe the education sector. It also draws on insights into how states build capability for implementation, in particular the importance of careful identification of a problem and its root causes, before attempting to develop a solution (Andrews, 2017).

**Actors and Relationships**

Education systems are made up of many actors. The RISE framework summarises these actors as citizens (parents, children, communities, etc.); executive, legislative and fiduciary authorities; education authorities and organisations; and frontline workers (school leaders, headteachers, teachers, etc.). It uses the paradigm of a relationship of accountability with a principal and an agent to describe their interactions (Figure 7.1) (Pritchett, 2015; World Bank, 2004). In its simplest form, this frames the relationship in terms of a principal wanting a task accomplished and engaging with an agent to complete the task. For example, a ministry of education wants children to be taught, so it engages with teachers to teach children.

The RISE systems framework includes four key relationships of accountability between these actors (Figure 7.2) (Pritchett, 2015; World Bank, 2004). First, the ‘politics’ relationship is the relationship between citizens who are the principals, and the highest executive, legislative and fiduciary authorities of the state (e.g., the president or prime minister’s office, the parliament, and the finance ministry), which are the agents. This represents the ways citizens express preferences to political actors and, ideally, hold political actors accountable for their actions. Among citizens, there may be groups or coalitions with varying degrees of influence in the ‘politics’ relationship. For example, the wealthy or privileged may have more influence than the poor or marginalised.

Second is the ‘compact’ relationship. In this relationship the highest executive, legislative and fiduciary authorities of the state are the principals, and the education authorities and organisations are the agents. In this relationship, (non-education) authorities, such as the ministry of finance or legislature, interact with education actors such as the ministry of education through actions that can include determining budgets or delegating priorities.

Third, ‘management’ is the relationship between education authorities and organisations, which here serve as the principals, and frontline
workers, such as school leaders and teachers, which here are the agents. The education authorities include all levels of the education bureaucracy, and the dynamics of this relationship vary based on factors such as the level of (de)centralisation.\footnote{In many education systems, the ‘management’ relationship exists within a single organisation – the ministry of education. This would be the case if all or most education functions fall under the remit of a single ministry. In other education systems, the relationship is more complex, with multiple organisations in the ‘education authority’ role, and each with their own set of frontline workers. For example, in some systems, there are schools that fall under the authority of a ministry of education and other schools that are managed by a religious authority.}

Fourth, ‘voice and choice’ involves the relationship between the recipients of services, including parents, children and communities, who here are the principals, and the frontline workers who provide services, including school leaders and teachers, who here are the agents. As part of this relationship, frontline providers provide instructional services to children.

\[\text{Source: Spivack (2021), adapted from Pritchett (2015).}\]

\textbf{Figure 7.1} \hspace{1cm} \textit{Four accountability relationships in the education system}
Design Elements

Actors in an education system interact in many ways. The RISE framework includes five design elements that cut across each relationship and describe the interactions between the actors. These design elements describe the relationship between the principal and agent in terms of what the principal asks the agent to do, how the principal equips the agent to do it, and how the principal monitors and incentivises the agent’s performance (Pritchett, 2015).

The first design element is ‘delegation’, which is what the principal delegates to or expects the agent to do. The second is ‘finance’, which refers to the resources the principal has allocated to the agent to achieve the assigned task. The third is the ‘information’ the principal uses to assess the agent’s performance. Fourth is ‘support’, which refers to the preparation and assistance that the principal provides to the agent to complete the task (e.g., teacher training and instructional materials). Fifth is ‘motivation’, which refers to how the principal motivates the agent, including the ways in which the agent’s welfare is contingent on their performance. Motivation can be external (mediated by the principal, i.e., salary) or internal (mediated by the agent, i.e., job satisfaction).

Source: Adapted from Pritchett (2015).

Figure 7.2 Relationships and actors in the education system
Combining the four key relationships and five design elements produces a $5 \times 4$ matrix (Table 7.1) which represents the RISE systems framework and facilitates analysis of the interactions between the actors in the system and how these interactions produce system outcomes.

Embedded in the RISE framework is the assumption that coherence across the relationships of accountability and design elements matters for the outcomes a system produces (Pritchett, 2015). To produce learning, the framework hypothesises that relationships and design elements need to be at least somewhat aligned with learning objectives.

Systems may be incoherent for learning in at least two ways. First, education systems can be coherent for a goal other than learning. In recent decades, many education systems in LMICs have achieved rapid and large-scale increases in school grade attainment by aligning their systems for schooling access (Pritchett, 2013). Some education systems are aligned to identify and select top performers for elite schooling while leaving most children behind (Muralidharan & Singh, 2021). In these situations, the columns and rows of the RISE framework are largely aligned with each other but work towards a goal other than universal learning.

Second, the relationships of accountability (the columns in the framework) and design elements (the rows in the framework) can be incoherent with each other. For example, within a ‘compact’ relationship, the executive authority may delegate learning improvements but only ask the education authorities (i.e., a ministry of education) for information on enrolment rates and teacher attendance (Example 1 in Table 7.1). In this case, there is incoherence between what is delegated and the information used to evaluate the ministry’s performance. This is an example of incoherence within a relationship of accountability between two design elements.

Incoherence can also arise within a design element (a row) between the relationships of accountability (the columns). For example, the education ministry may launch a new initiative aimed at ensuring that all children master foundational skills and then delegate these priorities to teachers and schools. Parents, however, may prioritise their children passing a high-stakes exam and pressure teachers to prioritise test preparation (Example 2 in Table 7.1).

Of course, this is not the only framework for studying education systems, and other useful frameworks are discussed elsewhere in this book. The contributions of the RISE framework are to provide a structure for enquiry into the systemic roots of low learning outcomes and to emphasise the role of coherence among relationships in driving system
Table 7.1  The 5x4 education systems framework (five design elements and four relationships of accountability)

<table>
<thead>
<tr>
<th>Five elements of each relationship</th>
<th>Politics</th>
<th>Compact</th>
<th>Management</th>
<th>Voice &amp; Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal–agent relationships</td>
<td>Citizens to the highest authorities of the state</td>
<td>Highest authorities of the state to education authorities</td>
<td>Education authorities to frontline providers (schools, school leaders, and teachers)</td>
<td>Service recipients (parents/children) to frontline providers (schools, school leaders, and teachers)</td>
</tr>
<tr>
<td>Delegation: What the principal wants the agent to do</td>
<td>Example 1. (a) Executive authority delegates learning improvements</td>
<td>Example 2. (a) Education ministry launches new foundational skills learning initiative</td>
<td>Example 2. (b) Parents prefer and pressure schools and teachers to prioritise preparation for high-stakes school leaving exams</td>
<td></td>
</tr>
<tr>
<td>Finance: The resources the principal has allocated to the agent to achieve assigned task</td>
<td></td>
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</tr>
<tr>
<td>Information: How the principal assess the agent’s performance</td>
<td>Example 1. (b) Despite delegating learning improvements, the executive authority only monitors information on enrolment rates and teacher attendance</td>
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<tr>
<td>Support: Preparation and assistance that the principal provides to the agent to complete the task</td>
<td></td>
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</tr>
<tr>
<td>Motivation: How the principal motivates the agent, including the ways in which the agent’s welfare is contingent on their performance against objectives</td>
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</tbody>
</table>

Source: Adapted from Pritchett (2015), with examples from the authors.
outcomes. Applying this framework to examine education systems can help identify the incoherence hindering progress.

DELEGATION OF LEARNING GOALS AND SYSTEM ALIGNMENT FOR LEARNING THROUGH THE LENS OF A SYSTEMS FRAMEWORK: THE CASE OF SOBRAL, BRAZIL

A small but growing body of evidence suggests that a key to achieving large improvements in learning is the clear delegation of explicit learning goals by the leadership in an education system, establishing a common purpose and driving other elements of the system to align around the learning goals (Kaffenberger, 2021; London, 2021). The RISE systems framework can be applied to better understand and analyse the sources and processes of such success.

Through the lens of the RISE framework, this section analyses the experience of the municipality of Sobral, Brazil, which has achieved transformative improvements in learning outcomes in recent years.3 A theme in the Sobral experience is the commitment and dedication of municipal leadership to explicit learning goals and the clear communication and delegation of those goals to the rest of the system. This established a common purpose and collective responsibility for achieving goals, enabling many other elements of the system, including ‘information’, ‘motivation’, ‘support’ and ‘finance’, to align around the goals.4

In just 12 years, Sobral rose from being the 1,366th ranked municipality in Brazil for learning outcomes to being the top performer in Brazil’s national basic education assessment (Crouch, 2020). This occurred despite high levels of poverty: in 2017, its test scores were 80% higher than would be expected for its level of education expenditure relative to other Brazilian municipalities.

A key driver of Sobral’s learning gains was the clear delegation of explicit learning goals by Sobral’s mayor (Loureiro & Cruz, 2020; Crouch, 2020) and subsequent collective commitment to the goals (McNaught, 2022). In 2000–2001, an independent learning assessment

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3 This section draws on case studies of the Sobral experience by Loureiro and Cruz (2020) and Crouch (2020).
4 The example of Sobral also shows how the RISE framework can be applied at different levels of the system, including the national, regional or municipal levels.
conducted by the municipality revealed that 40% of primary school students could not read (Loureiro & Cruz, 2020). In response to these findings and others, Sobral’s mayor established seven education goals, the top two priorities of which were achieving universal literacy in the first two years of primary school and remediating children in higher grades who could not yet read (Becskehazy & Louzano, 2019). These goals had a slogan – ‘Alphabetization (literacy) at the Right Age’ – and significant collective responsibility was fostered in support of the goals. In the context of the RISE systems framework, this represents ‘delegation’ in the ‘compact’ relationship in which the executive authority (in this case, the municipality’s mayor) delegated goals to the education actors in the system. The Secretariat of Education – that is, the education authority in the municipality – then delegated and supported schools and teachers to achieve these goals through the ‘management’ relationship.

This delegation led to a series of policies and reforms that were coherent with each other and coherent with the delegated learning goals. According to Loureiro and Cruz, Sobral’s success was because of ‘its ability to converge the whole education system toward learning’ (2020, p. 13), with sustained political leadership being an essential condition underlying the other efforts. The efforts involved reforms to curriculum, pedagogy, training and professional development for teachers (‘support’); new student assessments used for tracking progress and informing adjustments to classroom instruction (‘information’); new incentives and recognition for teachers tied to performance on the learning goals (‘motivation’); and increased funding and financial autonomy (‘finance’) (Table 7.2).

To support teachers and schools in achieving the learning goals, the secretariat of education set clear, sequenced learning objectives, establishing expectations for students at each learning level and grade (Loureiro & Cruz, 2020; Crouch, 2020). A sequenced curriculum was then developed along with structured teaching and learning materials and student assessments, all of which were aligned with the learning objectives. Teachers participated in initial training on the curriculum, learning objectives, pedagogical practices, and materials for use in the classroom, as well as subsequent monthly in-service training. Regular classroom observations from schools’ pedagogical coordinators and from secretariat staff provided regular feedback and tailored support for teachers. Secretariat staff visited schools monthly to provide support to coordinators and teachers (Loureiro & Cruz, 2020).
New sources of information were introduced into the system to track and support progress on the delegated learning goals, with ‘information about learning outcomes extensively used to guide the education strategy at the municipal, school and classroom levels’ (Loureiro & Cruz, 2020, p. 18). Learning assessments were conducted twice per year, with midterm results used to inform course correction and end-of-year results to inform strategies for the following year. Using information on learning was a priority of education leadership – the secretariat dedicated one-third of their time and effort to student assessments, including designing, implementing and analysing assessment results before using these results to provide feedback and guidance on progress to schools (Loureiro & Cruz, 2020). In the classroom, continuous assessment was part of the new, structured pedagogical approach, and teachers were trained and supported in using these assessments to adjust their instruction (Crouch, 2020).

Teachers and other education actors were provided with new incentives to motivate a focus on the delegated learning goals. Financial incentives were established for teachers, pedagogical coordinators, and school principals when the schools achieved annual learning goals, and the teachers could receive bonuses if their class performed well (Loureiro & Cruz, 2020). Non-monetary incentives were also provided, including special honours and public recognition events for high-performing teachers (Crouch, 2020).

Finance reforms also supported the achievement of the learning goals. Around the same time as the reforms, the federal government in Brazil began pooling education resources from the federal, state and municipal governments and redistributing them based on student enrolment, reducing inequality in education financing and increasing per-pupil financing, particularly in poor municipalities, including Sobral (Loureiro & Cruz, 2020). Within the municipality, Sobral undertook a major transition from politically appointed school principals to meritocratically selected principals who were chosen for their technical and pedagogical skills. With skilled leadership in place, Sobral devolved financial autonomy to schools, which came with two main effects. First, the schools had both more financial independence and more responsibility for achieving results through results-based accountability. Second, the role of the secretariat was transformed from a primarily administrative role to a technical one, including providing pedagogical and assessment support to schools (Loureiro & Cruz, 2020).
Table 7.2 System reforms in Sobral, Brazil, created coherence for learning across the ‘compact’ and ‘management’ relationships and all five design elements

<table>
<thead>
<tr>
<th>Five design elements</th>
<th>Politics</th>
<th>Compact</th>
<th>Management</th>
<th>Voice &amp; Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Delegation</strong></td>
<td>Mayor delegates explicit learning goals, including universal literacy in first two years of primary and remediation for children in older grades, with the slogan of ‘Alphabetisation (literacy) at the Right Age’</td>
<td>Secretariat of education delegates goals to schools and teachers and brings other system elements in line with the delegated goals</td>
<td>Parents expressed initial resistance to the reform, but regular dialogue from the mayor and secretariat increased support. Parents were encouraged to reinforce learning goals and ensure that their children attend school more</td>
<td></td>
</tr>
<tr>
<td><strong>Finance</strong></td>
<td>Federal education funding increased for poor municipalities, including Sobral</td>
<td>Financial autonomy devolved to school level, giving more financial independence and responsibility for results</td>
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</tr>
<tr>
<td><strong>Support</strong></td>
<td>Teachers provided with sequenced learning objectives, structured teaching and learning materials, training and professional development and ongoing feedback and support through classroom observations, all aligned with learning goals</td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Information</strong></td>
<td>Information on low learning from new assessments was shared publicly by the mayor to increase citizen buy-in for improving learning</td>
<td>Use of information on learning a top priority for education leadership, with one-third of the time and effort dedicated to this Twice-yearly assessments used by education leadership to measure progress and inform course correction and strategy Teachers supported the use of continuous assessment in the classroom for regular feedback on student progress and to inform adjustments to instruction</td>
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<td></td>
</tr>
<tr>
<td><strong>Motivation</strong></td>
<td>Financial incentives for teachers, in-school pedagogical coordinators and principals for achieving learning goals Public recognition events for high-performing teachers</td>
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</tbody>
</table>

*Source: Authors’ analysis, drawing on Loureiro and Cruz (2020) and Crouch (2020).*
Although many education policies and projects aim to make changes to one cell of the RISE systems framework, such as increasing budget outlays (in the ‘finance’/‘compact’ cell) or implementing a teacher training programme (in the ‘support’/‘management’ cell), the Sobral experience stands out for including a coherent set of reforms encompassing many cells of the framework. This integrated, system-wide approach – combined with political commitment to learning and the common purpose and collective responsibility for results at all levels of the system – produced a system shift with large improvements in learning outcomes.

TEACHER CAREER STRUCTURES AND COMPENSATION THROUGH THE LENS OF A SYSTEMS FRAMEWORK: THE CASE OF INDONESIA

The structure of teacher careers – how they are recruited, selected, retained and motivated and their professional norms – all bear critically on their performance and, thus, on their interactions with students. This section describes teacher reform in Indonesia through the lens of the RISE framework, illustrating how the framework can help understand success and diagnose failure in reform efforts.

The structure of teacher recruitment in Indonesia originates in the rapid expansion of the Indonesian schooling system in the late 1970s as part of the Suharto government’s National Development Strategy (Huang et al., 2020; World Bank, 1990). The rapid expansion necessitated significant growth in the teacher workforce, which prioritised mass hiring to fill positions, with less emphasis given to ensuring the recruitment of quality candidates and providing them with adequate preparation for the classroom (Huang et al., 2020).

Beginning in the early 1990s, there was growing recognition among international advisors and education officials within the ministry of education that the system was failing to deliver adequate learning and that poor teaching was hindering outcomes (World Bank, 1989, 2013). At the same time, teachers were among the most respected members of many communities and an important political constituency (World Bank, 2013). Teacher groups argued that the income levels and professional status of teachers were key constraints to progress and that teachers needed both better pay and professional status on par with doctors and lawyers. With these factors in mind, a consensus emerged among the various relevant ministries (including education, finance, and planning),
political parties, legislature and teacher groups that a reform effort aimed at improving teachers’ performance and rewards could be a viable path forward (World Bank, 2013).

A reform package with three main components was developed with the intent of overhauling the teacher career structure, ‘re-professionalising’ teachers, improving equity in the geographical distribution of teachers and increasing motivation and performance. First, the package sought to improve teacher quality by increasing support for teachers with training and certification. As initially proposed, certification was meant to include an external evaluation of teacher’s pedagogical knowledge along with a year of further training and assessment for teachers who failed certification (World Bank, 2013; Ree et al., 2018). Second, the reform sought to increase teacher motivation by tying salary increases to training and certification. Most civil service teachers would qualify for a 100% salary increase if they successfully completed the certification process. Third, the reform provided bonuses for teachers who accepted posts in marginalised areas (World Bank, 2013).

The reform was deployed in the form of a new teacher law (referred to as the ‘2005 Teacher Law’) which was adopted by the legislature and implemented by the Indonesian Ministry of Education. It was primarily financed through a contemporaneous constitutional amendment mandating that 20% of government spending go to education.

Despite intentions, pressure from teachers’ associations throughout the policymaking and implementation process diluted the reform, producing an enacted reform that differed substantially from the initial design (World Bank, 2013; Ree et al., 2018). The teachers’ groups successfully lobbied to eliminate funding for external teacher evaluations as part of the teacher certification process. External evaluations were replaced with a requirement to submit a portfolio of teaching materials for review (World Bank, 2013). In practice, portfolio reviews became largely pro forma, with most teachers passing. Those who did not could complete a two-week course and take a test, which nearly all candidates passed to get certification (World Bank, 2013; Ree et al., 2018). As a result, the law effectively provided for a nearly universal doubling of civil servant

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5 Technically, the salary increases were only available to teachers with a four-year degree or a sufficiently high civil service ranking. However, most teachers without a four-year degree were administratively given a high enough civil service rank to qualify, making the salary increase effectively available to all teachers (World Bank, 2013).
teacher salaries, with limited or no requirements aimed at raising teacher qualifications (Ree et al., 2018). Bonuses for working in marginalised areas were left in place.

An evaluation of the reform found that despite achieving many of the intended intermediate effects (teachers were more likely to have obtained certification, were happier with their jobs, and were less likely to have a second job), the reform had no effect on teachers’ attendance, their subject knowledge or on student learning outcomes (Ree et al., 2018).

This case illustrates two points about coherence (summarised in Table 7.3). First, incoherence can emerge in delegation by citizens and by government authorities (i.e., incoherence within the ‘delegation’ row, here between the ‘polities’ column and the ‘compact’ column). Effort from government officials for reforms to increase teacher pay and improve motivation and support (through certification and training) with the goal of ultimately improving quality was met with resistance from teachers’ groups (part of the citizenry) who opposed the motivation and support components and were interested only in the pay increases.

Second, a change to just one element of the teacher’s career – ‘finance’ – had a limited effect on outcomes because it was not paired with reforms to other system elements. It did not change what teachers were delegated, supported, monitored or motivated to do. The final, watered-down version of the certification requirement was so weak that subsequent evaluations found no difference in the performance or knowledge between certified and uncertified teachers (World Bank, 2013), and the universal salary increase did not change incentives or induce greater effort (Ree et al., 2018).

The RISE framework helps understand why teacher reform in Indonesia did not produce learning gains. Because only one system element was adjusted – ‘finance’ – without (de facto) reform to related elements, teachers did not need to change their practices to benefit from the salary increase. A description of a coherent teacher career policy that attracts, retains and motivates effective teachers is proposed in Hwa and Pritchett (2021); they emphasise that the design elements of a teacher career path must be coherent across the different stages of teacher careers, from pre-service, to novice, to experienced, to veteran teachers, something that the Indonesian reform did not address in its standardised treatment of nearly all civil servant teachers.
The 2005 Teacher Reform in Indonesia suffered from incoherence within the ‘delegation’ row and within the ‘management’ column.

<table>
<thead>
<tr>
<th>Five design elements</th>
<th>Politics</th>
<th>Compact</th>
<th>Management</th>
<th>Voice &amp; Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delegation</td>
<td>Teachers’ groups argue that higher salaries and professional status will improve performance. Pressure from teachers’ groups to dilute aspects of the law, in particular, the teacher certification process.</td>
<td>Intended reform: delegation from legislative authorities to adopt pay raises for certified teachers to improve learning. Enacted reform: legal provisions on teacher certification significantly diluted, producing a de facto universal salary increase.</td>
<td>Intended reform: delegation of quality improvement for teaching through merit-based certification process. Enacted reform: merit-based components replaced with superficially effectively universal certification process.</td>
<td></td>
</tr>
<tr>
<td>Finance</td>
<td>Additional financial resources needed for salary increases financed by a constitutional amendment passed around the same time as mandating 20% of government spending go to education.</td>
<td>Intended reform: finance provided to raise salaries for teachers who pass external evaluation for merit-based certification. Enacted reform: finance provided to raise salaries for teachers who submit a portfolio and/or complete a two-week course.</td>
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<tr>
<td>Support</td>
<td>Intended reform: comprehensive support and training to teachers who do not pass the certification process. Enacted reform: completion of a two-week course allows nearly automatic certification.</td>
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<tr>
<td>Information</td>
<td>Intended reform: rigorous external evaluation to verify quality of teacher pedagogical knowledge. Enacted reform: teacher quality superficially verified through portfolio review or a two-week course.</td>
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</table>

Source: Authors’ analysis, drawing on World Bank (2013) and Ree et al. (2018).
CONCLUSION

In many LMICs the learning crisis is severe. The RISE systems framework is a tool for describing the complex dynamics of a system, including the design elements, relationships of accountability and feedback loops that drive system outcomes. By going beyond the proximate causes of low learning, it applies systems thinking to describe the fundamental drivers of success and failure and to identify constraints to progress in a particular context.

The RISE framework is useful for understanding successful efforts to improve learning outcomes. In the case of Sobral, Brazil, the framework provided a structured way to describe the system actors playing a role in the successful reforms, the interactions between those actors and the system elements that changed as a part of the reform.

The framework is also useful for diagnosing the reasons why reform efforts do not produce the intended or desired outcomes. In the Indonesia case, analysis of the reform through the lens of the framework showed that by only changing one system element (‘finance’) without related changes to other elements (such as ‘delegation’, ‘motivation’ or ‘support’), the reform did not sufficiently change the dynamics in the system and bring about the intended learning improvements. Lessons from such retrospective analyses can inform future policy reforms.

The RISE framework can also be applied prospectively to inform action. It can be used to diagnose existing incoherence in an education system and inform the needed actions to improve outcomes. Atuhurra and Kaffenberger (2022) apply the framework to identify incoherence in what different education authorities, including curriculum agencies and exam agencies, expect of teachers in Uganda and Tanzania, hence informing the possible actions to improve alignment. The framework has also been used to diagnose existing incoherence in the education system in Ghana as input to government planning and reform processes. In Ghana, workshops and interviews with the government and other actors were used to diagnose critical areas of incoherence that need to be alleviated to improve learning.

There is no quantified level of coherence that is considered ‘sufficient’ for learning in an absolute sense. In the Sobral case, the coherent set of reforms produced changes in nine cells of the framework, all

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6 See https://epg.org.uk/portfolio/ghana-accountability-for-learning-framework/
of which worked collectively towards a common purpose. Atuhurra and Kaffenberger’s (2022) application of the framework suggests that improved coherence in two cells of the ‘management’ column could potentially improve learning in Tanzania and Uganda. Rather than setting a target level of ‘sufficient’ coherence, the RISE framework can be used as a qualitative tool to improve understanding of system dynamics, identify areas of incoherence and determine in which areas changes are most critical for aligning the system for learning.

Applications of the RISE framework reveal additional complexities. The case studies in this chapter illustrate the role that agents – not just principals – play in shaping priorities and outcomes in an education system. The Indonesian Ministry of Education (which is an agent in the ‘compact’ relationship) influenced the formation of the reform package enacted by the legislature. In Sobral, schools (which are agents in the ‘management’ relationship) received more autonomy in financial decision making from the secretariat of education but only after explicit learning goals had been set and qualified leadership put in place.

All education actors, from policymakers to mid-level bureaucrats to teachers at the frontline, are embedded in a system that facilitates and constrains their possible actions. Although it is not possible to reform all components of an education system at once, considering the system-level constraints and incoherence can identify the most promising and feasible pathways to improvement. As the Sobral case demonstrates, not every ‘cell’ in the RISE systems framework must experience reform to improve learning outcomes. However, in Sobral, enough cells underwent a coherent set of reforms to realign the system for learning. Using the RISE framework to adopt a systems lens can help identify which constraints pose the most critical barriers and must be alleviated to enable change.

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