UN Declaration of Human Rights Article 26 guarantees the right of every child to free elementary education. Today, nearly 90 percent of children are enrolled in primary school, but enrollment is only the first step. Pritchett’s insightful analysis and rigorous evidence point to the next step in realizing every child’s right to education: the need for governments and donors to move from a focus on enrollment to a focus on learning.

— S. E. M. Vuk Jeremić, president of the 67th Session of the United Nations General Assembly

A timely call to build on the success of expanding schooling to now focus the same dedication, energy, resources, and creativity on learning. Innovation in close partnership with our developing-country colleagues, whose voices must be heard on the systemic challenges, will be critical to the success of this next phase.

— Alice Albright, CEO of the Global Partnership for Education

With abundant data, experience, and clear thinking, Pritchett makes a compelling case for why more of the same won’t cut it anymore, how we need to think deeply about how change happens and who can drive it, and why we need to be suspicious of experts and blueprints.

— Rakesh Rajani, founder and head of Twaweza

Lant Pritchett’s recommendations will disappoint both orthodox economists and orthodox educators since they do not reinforce any of the standard recipes. But those willing to be convinced by Pritchett’s logic and the particular blend of caring and impishness that characterizes his writing will be justifiably alarmed, then enlightened, and finally filled with hope. I urge all my colleagues to read it immediately.

— Luis Crouch, chief technical officer, International Development Group

With his unique voice, full of data and analogies (after all, what book on education reform also mentions snakes, spiders, and elephants?), Lant Pritchett will make people rethink what they know (or think they know) about education, schooling, and learning.

— Elizabeth King, director of education, World Bank

Lant Pritchett’s pathbreaking and courageous work exposes the scandal of education policy which contents itself with achieving quantitative targets on student enrollment even when no real education is happening. Pritchett documents convincingly the problem of missing education, while offering constructive alternatives to the unacceptable complacency of the status quo. Nobody reading this book will ever think about education the same way again.

— William Easterly, professor of economics, New York University

Lant Pritchett is a senior fellow at the Center for Global Development and professor of the practice of international development at Harvard’s Kennedy School of Government.
THE REBIRTH OF EDUCATION
THE REBIRTH OF EDUCATION
SCHOOLING AIN’T LEARNING

LANT PRITCHETT

Center for Global Development
Washington, D.C.
Contents

Acknowledgments vii
Preface xi

Introduction 1

1 Schooling Goals versus Education Goals 13
2 More Schooling Alone Won’t Necessarily Give an Education 51
3 More of the Same Is Just More of the Same 89
4 Camouflage of the Spider and Dangers of Centralized School Systems 120
5 Why Spiders Came to Dominate Schooling 164
6 The Rebirth of Education as Starfish Ecosystems of Educators 193

References 244
Data Sources 253
Index 257
Every book has to have a story, a simple story that tells why the author wrote the book, why people should read it, and what the book says. Here is my book’s story. In 2006 I was living in New Delhi, working for the World Bank. I had occasion to take an overnight train to eastern Uttar Pradesh to visit an education project that was being run by Pratham, an Indian NGO that works on improving learning of the basics; the program was undergoing a rigorous evaluation by researchers from MIT. The Pratham team would visit a village and do very simple tests of the children’s mastery of literacy and numeracy. After a few days of testing, public meetings would be organized to reveal and discuss the results. The locally elected village leader, all the parents of the village, and the government school principal were invited to these meetings.

I arrived at the village meeting just after the results had been presented. They were bad—really awful (though, as we shall see in the next chapter, not atypical). Most fifth-graders could not read a simple story (many could not even recognize the letters of the alphabet), and few
could do simple division. Since the testing had been done by Pratham workers and local volunteers in the children’s homes and neighborhoods, by the time of the meeting most parents knew the results for their child. For many parents this was the first time they had had any feedback on what their child was actually learning—or not learning.

At the meeting, a man of about fifty stood up, looked straight at the principal of the local government school, and said, “You have betrayed us. I have worked like a brute my whole life because, without school, I had no skills other than those of a donkey. But you told us that if I sent my son to school, his life would be different from mine. For five years I have kept him from the fields and work and sent him to your school. Only now I find out that he is thirteen years old and doesn’t know anything. His life won’t be different. He will labor like a brute, just like me.”

The man was right. In Uttar Pradesh and the rest of India, and in many other countries around the world, the promise of schooling—getting children into seats in a building called a school—has not translated into the reality of educating children. Getting children into schools was the easy part. Schooling has seen a massive expansion such that today, nearly every child in the world starts school, and nearly all complete primary school (as their country defines it). This expansion of schooling is a necessary first step to education, but only a step.

Education is the preparation of children to assume their adult roles in society as loving parents, as engaged citizens, as contributors to society and their communities, and as productive workers. The premise is that schooling and education are linked: a child who spends more years in school is thereby expected to acquire more education—more skills, more capabilities, more competencies. Yet, tragically, it has been demonstrated again and again that this is not always the case. Schoolin’ ain’t learnin’.

Division is an arithmetic competency that children are expected to learn. In India, the data from the simple assessments done by ASER in 2009 show that of eight children who enter fourth grade not knowing how to do a simple division problem, only one will learn in the fourth grade—which means that seven of eight children will not. The same data show that of five children who enter fourth grade not able to read a simple story, only one will learn to do so in fourth grade. This means that four out of five who cannot read when they start fourth grade will not be able to read after they finish fourth grade. The results pertaining

1. The speaker’s words were translated for me.
to year-to-year progress are even worse when conceptual understandings that go beyond rote learning are measured. A nationwide assessment of sixth-graders in India done by Educational Initiatives (2010) found that half could multiply a three-digit number times a two-digit number when the question was posed in the standard way they had been taught it. Yet when children were presented with an arithmetically much simpler question that probed whether they understood conceptually that multiplication was repeated addition, the proportion correct on a multiple-choice test was worse than random guessing. An Indian child who finished school at age fifteen in 2012 and who works to age sixty-five will be in the labor force in the year 2062. These children are emerging from primary schooling or even junior secondary or secondary schooling with so few skills that they are unprepared for today’s economy, much less for the economy of 2030 or 2062. Their lack of basic education is a burden they will bear for decades.

The problem of inadequate education cannot be solved with more of the same. With so little learning per year, just increasing the number of years children stay in school adds very little learning. Even if Ghana manages to achieve a goal of having every child complete grade nine, if it retains its 2007 learning per year, only 20 percent of children will complete grade nine having more than a minimally acceptable threshold of learning.

More problematic still is that if additional inputs are used as badly as existing inputs are, they will barely budge learning outcomes. Pushing in more of the same standard inputs won’t lead to improvements. If your bicycle tire has a hole, pumping in more air won’t do much good. This isn’t because you don’t need air in the tire; it is because you have to fix the hole first, and then add the air. Pumping more books, more teachers, or more training into existing systems is just a palliative measure.

My story then got even more interesting. After the villagers had expressed their poignant disappointment about the consequences for their children of their lack of learning in school, the school principal was asked to respond. He said, “It is not our fault. We do what we can with your children. But you [are] right, you are brutes and donkeys. The children of donkeys are also donkeys. We cannot be expected to teach your children. They come from your homes to school stupid and you cannot expect that they will come home from school anything other than stupid.”

In the hullabaloo that followed this insulting speech, it became clear that the principal had no concern for what his students or their parents thought. He had all the power in the relationship, he knew it, and he was not shy about displaying it.
It is frightening that this headmaster’s response is typical of the insouciance and brutality of power in top-down modes of government schooling in Uttar Pradesh, and in India more generally, with, of course, variations from state to state. As a leading issue, teachers often just don’t show up, or if they do, they don’t bother to engage in teaching. Less than half of teachers are both present and engaged in teaching on any given school day (Chaudhury et al. 2006), a pattern of teacher behavior that has persisted despite being repeatedly documented, beginning with the *Public Report on Basic Education in India* (UNDP 1998), better known as the PROBE report. Second, a household survey in India (not just Uttar Pradesh) found that about one out of five children reported being “beaten or pinched” in school—just in the previous month (Desai et al. 2008). More shocking still, the same study found that a child from a poor household was twice as likely to be beaten in a government school as was a child from a rich household. Third, a recent study (Bhattacharjea, Wadhwa, and Banerji 2011) did close observation of classrooms in five states of India (not including Uttar Pradesh) looking for any of six “child-friendly” pedagogical practices—simple things such as “students ask the teacher questions” or “teacher smiles/laughs/jokes with students.” In observing 1,700 classrooms around the country the researchers found no child-friendly practices at all in almost 40 percent of schools—not a smile, not a question, nothing that could be construed as child-friendly engagement. Fourth, another recent study in Uttar Pradesh (Atherton and Kingdon 2010) compared the learning outcomes of children who had regular civil service teachers and those who had “contract teachers,” who were on one-year renewable contracts and were not part of the civil service. The children with a contract teacher learned twice as much a year as children with a regular teacher, even though the civil service teachers were paid three to five times more than contract teachers.

I find that this story leaves everyone outraged, but in two very different ways. One group is outraged by my telling the story. If this is you, this book is not for you. The other group is outraged by the story itself and the facts about learning (which I will show in the next chapters are hardly unique to India) and the slow progress. How has the beautiful and hopeful promise of universal schooling led to these tragic results and poor learning outcomes? How can these awful circumstances persist in publicly controlled schools—even in a full-fledged democracy like India? What can we as local, national, and global citizens do to realize the promise of quality education for every child—and not just schooling? This book is for you.
Two key concepts about schooling systems allow the persistence of these terrible outcomes, both of which I introduce with metaphors from the animal kingdom.

**Spiders versus Starfish**

School systems have become spider organizations. Ori Brafman and Rod Beckstrom in their 2006 work, *The Starfish and the Spider: The Unstoppable Power of Leaderless Organizations*, contrast “spider” organizations, which are centralized, with “starfish” organizations, which are decentralized. They propose nine criteria to distinguish centralized from decentralized modes of organization:

- Is there someone in charge?
- Is there a headquarters?
- If you thump it on the head, does it die?
- Is there a clear division of roles?
- If you take out a unit, is the whole harmed?
- Are knowledge and power concentrated?
- Is the organization rigid?
- Are units funded by the organization?
- Can you count the participants?
- Do groups communicate through intermediaries?

They adopt the metaphor of a spider because a spider uses its web to expand its reach, but all information created by the vibrations of the web must be processed, decisions made, and actions taken by one spider brain at the center of the web.

The starfish, in contrast, is a very different kind of organism. Many species of starfish actually have no brain. The starfish is a radically decentralized organism with only a loosely connected nervous system. The starfish moves not because the brain processes information and decides to move but because the local actions of its loosely connected parts add up to movement.

In many countries, the legacy system of schooling is a large government-owned spider. These systems are top-down bureaucracies that attempt to control the entire system from a central location at the national or state/provincial level, deciding which schools get built to which teacher gets assigned to what school to what subjects are taught. When spider systems work, they are terrific at logistical tasks. The expansion of schooling is amenable to spiders. If you want to build
100,000 primary schools quickly and at low cost, a top-down program that cranks out standardized schools following a five-year plan is a great way to do it.

There is, however, increasing recognition that lots of problems, perhaps especially those having to do with educating children, are not just exercises in logistics. Spider systems that attempt to force round-peg tasks that require local judgment and control, such as teaching a child, into square-hole bureaucratic organizations can fail, and when they fail, their lack of robustness means they fail completely.

The fundamental difference between spider and starfish systems is not the usual battleground of “markets” versus “government,” as critiques of spider systems come from the ideological left and right. James Scott’s powerful Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed (1998) distinguishes the “high modernism” of top-down spider bureaucracies from the kind of horizontal, traditional practical knowledge manifested in the skills of local craftsmen. Scott, a Marxist political scientist, argues that governments have often failed when they have imposed spiders where starfish were needed. William Easterly (2006), an economist who is very far from a Marxist, has prominently critiqued foreign aid by contrasting “planners” with “searchers,” terms that capture many of the same distinctions between spider and starfish approaches. Elinor Ostrom (2008), an eclectic political scientist who won the Nobel Prize in Economics in 2009, attended to “polycentric” systems in which hierarchical power (spiders) does not prevent the emergence of self-organizing systems (starfish).

The Uses of Camouflage

A second metaphor from the animal kingdom important to my thesis has to do with camouflage. Camouflage is a deception that is often key to survival in the animal world. Predators’ camouflage allows them to more easily sneak up on prey. Prey use camouflage to avoid and hide from predators. Some animals gain a survival edge through mimicry, sporting camouflage that makes them look like other animals. Some species of flies have evolved to look like bees. The eastern coral snake, which has distinctive black, red, and yellow bands, is highly venomous and best avoided. The scarlet king snake can’t be bothered with all that poison and venom, but with its black, red, and yellow bands it looks a lot like the eastern coral snake and scares off predators by mimicking its visual cousin. With mimicry, the form provides survival value without the function.
In the 1980s the organizational theorists Paul J. DiMaggio and Walter W. Powell (see DiMaggio and Powell 1983; Powell and DiMaggio 1991) considered how organizations might use camouflage to enhance their chance of survival. Organizations need legitimacy. When organizations have a difficult time establishing legitimacy, they may resort to simply looking like other, successful organizations. The danger is that if the ecosystem endows both actual performers and their mimics with the same survival value, then systems can lock in to long-term stagnation because the process of ecological learning, whereby performers displace mimics in the population, is blocked.

The particular danger of isomorphic mimicry is that the mimics might look just as good as, or better than, actual performers when both groups are assessed only on inputs and process. In fact, in many schooling systems today, things seem to be getting better, but only because there is so little measurement of actual learning. In India the recent Right to Education Act declared that each child had a right to education—even clarified that the right included a “quality” education—but then defined the “quality” of schools strictly on inputs and process, without any reference at all to actual learning.

The Rise of Spider Schooling Systems

One might argue that spider systems’ uniform domination of schooling is in and of itself a compelling argument that spider systems have some powerful performance advantage. If the fittest survive, the survivors are the fittest. Indeed, spider systems do have advantages, but not in promoting learning. Spider systems facilitate the control of socialization, which is in fact their principal rationale. Modern schooling systems were not built as spiders. Rather, historically in the now developed countries schooling arose as a starfish system, with many overlapping and competing national, subnational, local, and private types of schools. Spider systems arose by swallowing the starfish systems. This consolidation had little to do with improved learning and everything to do with the rise of centralizing ideologies and nationalisms.

As I stood in the meeting in the village in eastern Uttar Pradesh, a witness to the principal’s brutal indifference and indeed outright hostility to the parents and students he was entrusted to teach, a school bus from a private school drove by the public school, returning children to their homes. I say “school bus,” but in fact it was one of the improvised vehicles that India is famous for, painted a bright blue and adorned with other colors.
Uttar Pradesh is still one of the poorest places on earth. According to official statistics, 42 percent of rural Uttar Pradesh fell below India’s national poverty line in 2004–2005. Yet there is a rapid rise of private schooling in rural Uttar Pradesh. According to an ASER 2011 survey (see Data Sources for a description of the survey), about 45 percent of all children in rural Uttar Pradesh were in private school. Even though government schools are free—and many benefits, such as a free midday meal, are available only to those enrolled in them—their quality is so low that even very poor parents will turn down a government school in favor of paying the full cost of a private school. Some may view a dynamic private sector as a panacea, a cure for all ills. Unfortunately, education is more complicated than that.

In 1981 Chile radically reformed its system of free basic education in two ways. First, it “municipalized” schools, so that rather than schools being controlled by the national government, each local government controlled its own schools. Second, it instituted a policy that money followed the student, so that private schools that chose to receive public monies (which came with some conditions) could receive more public resources, the more students they enrolled. This privatization led to a sustained rise in the number of students in private schools, so that by 2006 over half of all students in basic education were in private schooling.

In 1999, some eighteen years after the reform, Chile participated in a TIMSS (Trends in International Mathematics and Science Study) assessment of the mathematics abilities of eighth-graders. Chile’s average score of 387 (on an Organization for Economic Cooperation and Development norm of 500) was not only well below that of a developing-country star like Malaysia but also below that of Turkey (429) and even much poorer Indonesia (403). Moreover, the tests in Chile that tracked performance found that the scores of fourth-graders at all types of schools were completely stagnant between 1996 and 2002. Twenty years after the massive move to private schools, there was no evidence that the reform had had the kind of dynamic positive impact on the system that many had hoped the increased competition in a private system would provoke.

When a government’s spider systems break down, parents cope with the failure by moving to private alternatives, which constitute a parallel starfish system that is both effectively uncontrolled and unorganized and mostly consists of mom-and-pop low-cost schools. There is compelling evidence that when public systems are dysfunctional, the gains to parents of moving to these low-cost alternatives can be massive. But coping alone is not an alternative to failed systems.
Table I-1. Six features of systems of schooling in a progressive educational ecosystem.

<table>
<thead>
<tr>
<th>Feature</th>
<th>How a starfish system works</th>
<th>Spider systems are the opposite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td>Many different types of schools provide education, with distinct approaches allowed and encouraged.</td>
<td>Only schools under the spider’s control are supported.</td>
</tr>
<tr>
<td>Locally operated</td>
<td>Actors are allowed the autonomy to operate, explore, and discover their own ways of operating.</td>
<td>Attempts are made to exercise control over not just the goals and broad parameters but the actual operation, down to the school level.</td>
</tr>
<tr>
<td>Performance pressured</td>
<td>A combination of common standards and measurement for “thin” accountability on outcomes from above and “thick” accountability inside schools and inside school communities from below guides development.</td>
<td>Systems are bureaucratically managed, with “thin” accountability on inputs and process, zero performance pressure on learning, and isolation from local control.</td>
</tr>
<tr>
<td>Professionally networked</td>
<td>Teachers, the key to any system, are embedded in their school but are also networked horizontally in communities of professional practice.</td>
<td>Teachers are hierarchically organized, both by top-down management and by top-down associations.</td>
</tr>
<tr>
<td>Technically supported</td>
<td>The system gives support to schools and teachers to provide them with the capabilities to succeed.</td>
<td>The system provides supervision of compliance, not support or empowerment for innovation.</td>
</tr>
<tr>
<td>Flexibly financed</td>
<td>Finance follows students and performance, with local control of allocations.</td>
<td>Finance flows internally, mainly directly to teachers, independent of performance.</td>
</tr>
</tbody>
</table>

Source: Extended from work by Brafman and Beckstrom (2006).

Just being a “starfish” ecosystem is not enough. What are the characteristics of an effective starfish ecosystem of schooling? As I argue in chapter 6, there are six key characteristics of an effective ecosystem for schools that produce learning. Such ecosystems are open, locally operated, performance pressured, professionally networked, technically supported, and financially supported. The salient differences between starfish systems and spider systems on these dimensions are summarized in table I-1.

**Unleash the Power of Evolution to Change Education**

This may seem, and is, a very odd book about education. Unlike nearly all in its genre, this is not a how-to book on education. Attention to the “how to” often misses the point of the “why to” of the agents in the system. The
main value an economist like me—and I am emphatically not an expert in pedagogy or curriculum or classroom management—brings to a discussion of education is through asking two questions: “Why isn’t it done this way already?” and “Why will it be done that way in the future?”

That is, when people argue that technique X is a better way to teach, I ask, “Why aren’t teachers using X already?” Moreover, if X is a better way to teach and teachers are not now teaching that way, “Why will they do so in the future?” Spider system thinking assumes that the behavior of the entire system is determined at the top and hence changing the spider’s mind about the how of teaching will change what actually happens. This leads lots of academics, including many economists, to devote their time to the nuts and bolts of the how without focusing on the why.

Evolution works the opposite way. The how is derived in a variety of ways from a single why. Lots of animals swim—fish, ducks, mammals, penguins, jellyfish, protozoa. The ways an animal can swim are limited only by the properties of water, and so there are lots of ways animals can swim. But they all swim to survive.

Suppose we wanted to increase the average speed of things that swim in a given ecosystem. One might set about to genetically engineer the perfect swimmer. Alternatively, one might just get more sharks in the water. This ups the ante: “Why swim fast?” Those that can’t swim fast get eaten and those that don’t get eaten reproduce. This produces ecological learning, where overall performance improves. “Planners”—and here I reference again William Easterly’s work—want to design the perfect robot swimmer and, once having achieved their designed labor of love, are very reluctant to expose their precious design to any real test of performance. “Searchers” think not just about how to swim but about how to create ecosystems in which better swimming is an emergent property of the millions of choices of individuals in the system: lots of swimmers doing different things, an instructional system in the form of swimming lessons, and just enough sharks in the water to create a clear pressure.

Discovering Principles of Design, Not Blueprints of a Specific House

What would an ecosystem for basic schooling with the six key characteristics introduced above—namely, an open, performance-pressured, professionally networked, financially supported starfish system—look like? That question can be answered by posing an analogous one: What would a well-designed house look like? What a house looks like is limited only
by the imagination of its designers (and some physical constraints). Even if well-adapted houses result from similar principles of design, the concrete expression of the design will be different. Similarly, there are many forms a school can take in a starfish ecosystem:

— *Community-controlled schools.* Groups of parents affiliated with the most local level of government may open their own schools (subject to some requirements) and attract students to the school.

— *Private providers.* For-profit and nonprofit private entities provide schooling, with some formula for how public sector resources are to follow the student.

— *Schools under small governmental jurisdictions.* Control is allocated, resulting in a level of autonomy that is close to the level of the school.

— *Charter schools.* Entry to operating such schools is strictly regulated, but once chartered, schools (even if they are still government schools) are allowed much greater autonomy than regular government schools.

**The Rebirth of Education**

If a modern Rip Van Winkle had gone to sleep in 1912 and woken up in 2012, he would have been bewildered and disoriented by the vast technological, economic, and social changes in the world. Overwhelmed and ill at ease, where could our 1912 Rip go in 2012 and feel right at home? He could visit a school. He would recognize the buildings, he would recognize the classrooms, he would recognize the content taught. He would recognize the organization inside the classroom, the pattern of the school day, the internal organizational structure of the school itself (a principal and teachers). More deeply, almost anywhere in the world he woke after his long sleep he would recognize the system of government-owned and government-operated schools.

The legacy systems of large-scale government production of basic schooling that span the globe, as central as they were to the social, political, and economic developments of the twentieth century, are now obsolete. Government-owned spider systems of schooling arose more than a century ago to prepare children for the “modern.” Or, as Margaret Mead put it presciently in 1943, their purpose was to “turn the child of a peasant into a clerk.” Spider systems of schooling arose to prepare children economically for the “new” world of Henry Ford’s River Rouge factory,
organizationally for the “new” world of the Prussian army and the British railroads, politically for the “new” world of the expansion of the voting franchise via the British Reform Act of 1918, and socially for the “new” world of the consolidation of ethnicities into nationalisms and nation-states. However, this new world for which the modern school was designed is now a very old—and obsolete—world.

The mismatch between the education that children need for the world they will face and what legacy systems of schooling can provide is growing. Open, locally autonomous, performance-pressured, professionally networked, technically supported, and flexibly financed starfish systems of education build on the legacy systems that successfully provided access to schooling, to give children the education they need for the century they will live in.

But everything comes at a price. The price of starfish systems is not financial—again and again, disruptive innovation in starfish systems provides ways to produce more learning with less money. The price of better education is allowing freedom, giving choices, and hence ceding power. This is a price that must be paid by the powerful, not known for their largesse. The purpose of the large, centrally controlled spider schooling system was to limit choices: of teachers about how they would teach, of students and parents about what they would learn.

Starfish systems must be open and locally autonomous, and that opens the way for choices, by parents and students, by headmasters and teachers. Choice means freedom and freedom means power. Schooling systems cannot prepare children for a future of freedom, diversity, and creativity in the absence of freedom, diversity, and creativity in the way education is provided.
Index

Academic Ranking of World Universities (ARWU), 210, 256
“Access axis,” 52, 89
Access to education, 82
Accountability, 136–43, 227–28
Acemoglu, Daron, 190–91
Africa: early intervention for reading in, 200; enrollment and attainment vs. learning profiles in, 74–76; learning pace in, 92–93; private schools in, 122, 198, 199
Agenda conformity, evaluation of novelty by, 133, 134, 157
Agents vs. system problems, 140, 142
Albania: learning pace in, 118; level of learning in, 45, 46
Argentina: learning pace in, 118; level of learning in, 45, 46; PISA assessment in, 41, 46
Arithmetic skills. See Mathem.
Anori, Mori, 173
APRESt (Andhra Pradesh Randomized Evaluation Studies), 14, 22–25, 253
Argentina: learning pace in, 118; level of learning in, 45, 46; PISA assessment in, 41, 46
Arithmetic skills. See Mathem.
ARWU (Academic Ranking of World Universities), 210, 256
Assessments of innovation, 132–35
Assessments of learning, 253–55; APRESt, 22–25, 253; ASER, 25–29, 253–54; Demographic and Health Survey (DHS), 65, 254; Educational Initiatives, 29–31, 254; importance of, 76–78; international comparative, 34–47;
UWEZO, 58, 59, 255
Atatürk, 174–75
Aten, Bettina, 255
Atherton, Paul, 126–27
Attainment deficits and dropouts, 79–81
Attainment profiles by grade. See Grade attainment profiles
Australia, TIMSS assessment in, 43
Autonomy in starfish ecosystems, 195, 220–24, 240
Azerbaijan: learning pace in, 118; PISA reading test scores in, 46
Azim Premji Foundation, 22, 234–35, 253
Bahrain: level of learning in, 46; TIMSS assessment in, 43
Bangladesh: dropouts in, 81; grade attainment profiles in, 56
Basic schooling: dropout rate in move from, 59–60; expanded enrollment in, 65–66; questions to ask about, 239–40; universal, 52
Baumol, William J., 194
Baumol’s cost disease, 194
Beatings in Indian schools, 4, 83, 128–29
Beatty, Amanda, 160
Beckstrom, Rod, 5
Belgium, rise of schooling in, 175–76
Belief inculcation, 165, 166–71
“Best practice” as camouflage,
121, 143
*The Big Store* (Katz), 136
Bihar (India), remediation in, 197
Bold, Tessa, 146–47
Boredom at school, 83
Botswana: expanded schooling in, 76; learning pace in, 94; level of learning in, 45, 46; TIMSS assessment in, 43
Bowen, William G., 194
Brafman, Ori, 5
Brazil: conditional cash transfers in, 86, 215; learning pace in, 118; level of learning in, 45, 46; meeting learning goals in, 48; PISA assessment in, 41, 46; spending and learning outcomes in, 111–12; starfish systems in, 214–15
Breakthrough to Literacy (Zambia), 200
Bruner, Jerome, 171
Budget-level private schools, 198–99
Budgets and learning outcomes, 107–13
Bulgaria: learning pace in, 118; PISA reading test scores in, 46
Bureaucracy, rise of public sector, 123
Burkina Faso, school access in, 82
Cambodia, gross enrollment rate in, 17, 178
Cameras in classrooms, 122
Camouflage, 120–63; “best practice” as, 121, 143; dangers of, 120–21, 143; for failing spider systems, 129–43; input improvements as, 145–50; and lack of evidence-based decisionmaking, 131–36; metaphor of, 6–7, 121–22; preventing good ideas from succeeding, 143–50; of reform, 131, 134–35; and resistance to disruptive innovation, 151–63; and survival of organizations, 143–44; in value-subtracting and rent-extracting school systems, 123–29; and weak systems of accountability, 136–43
Capitalism and Freedom (Friedman), 189
Cash transfers, 52, 86, 215
Causal learning profiles, 58–60
CCTs (conditional cash transfers), 52, 86, 215
Census-based assessment in Brazil, 214
Centralized organization, 5–6. See also Spider schooling systems
Central Secondary Education Examination (CSEE) in Tanzania, 94
Chandler, Alfred, 203–05
Charter schools, 11, 242
Cherry-picked estimates, evidence-based plans using, 106–07
“Child-friendly” pedagogical practices in India, 4, 83
Chile: learning pace in, 118; level of learning in, 45, 46; locally operated schools in, 220; PISA assessment in, 41, 42, 46; school reform in, 8; vouchers in, 190
China: high stakes for students in, 228–29; spread of public schooling in, 182
Choice-based system, 12, 241
Christensen, Clayton, 154–55
Civil service teachers: in India, 4, 126–29; in Kenya, 145–47
Class size reduction as camouflage, 145–47
Cohort learning profiles: components of, 19; goals for, 47–50; LEAPS study of, 31–33; and learning progress, 56, 60–62, 63
Colombia: dropouts in, 79–80, 81; enrollment and attainment vs. learning profiles in, 65–67; learning pace in, 92, 118; level of learning in, 45, 46; PISA assessment in, 41, 46; TIMSS assessment in, 43
Communication in starfish ecosystems, 195, 231–34
Communist regimes and spread of public schooling, 182–83
Community-controlled schools, 11, 197–98, 241
Community-hired teachers, 122, 155–58
Conceptual understanding, flat learning profiles in, 29–31
Conditional cash transfers (CCTs), 52, 86, 215
Contractible instruction, 167–68, 169
Costa Rica: gross enrollment rate in, 17, 178; PISA assessment in, 41
Cost-effectiveness of inputs, 108–13
Creative destruction, 135–36
Crouch, Luis, 134, 153, 234
CSEE (Central Secondary Education Examination) in Tanzania, 94
Cuba, level of education in, 180–81
Cumulative impacts of input expansion, 106
Czech Republic, vouchers in, 190

Decentralized organization, 5–6, 195, 220–24, 240. See also Starfish ecosystems of educators
Delegation and accountability, 138, 139–40
Demand for schooling, 179–80
Democratic government and expanded schooling, 17–18
Demographic and Health Survey (DHS), 65, 254
Denmark: level of learning in, 45, 46; PISA assessment in, 36–42; spending and learning outcomes in, 111, 112
“Depreciation” of learning over time, 37
Desks, adequacy of, 105
Developing countries: enrolled vs. actual cohorts in, 64; grade attainment profiles in, 55, 56; irrelevance
of learning from experience of OECD countries by, 119; learning pace in, 90–94; performance comparison with OECD countries of, 39–42; performance of best (and richest), 44–47; PISA results for, 39–42, 44–47; years of schooling in, 15–16

DHS (Demographic and Health Survey), 65, 254

DiMaggio, Paul J., 7, 131

Directly contractible instruction, 167–69

Disruptive innovation: community teachers as, 155–58; effervescent, 152–54; by innovative leaders, 151–52; overambitious curricula vs. remediation as, 158–62; resisting, 151–63; in spider systems, 154–63; technology as, 162–63

Dixon, Pauline, 198

Dreze, Jean, 128

Dropouts: and attainment goals, 79–82; and learning profiles, 58–60; prevention of, 84–87; reasons for, 82–84

Duflo, Esther, 147

Dupas, Pascaline, 147

Early Grade Reading Assessment Plus (EGRA+, Liberia), 200

East Asian model of schooling, 228–29

Easterly, William, 6, 10

Ecological learning, 135–36, 218

Economic growth and demand for schooling, 18, 179–80

Economies of scale, 188–89, 205

Education: defined, 2, 172; goal of, 13, 18–19; schooling vs., 1–4; universal, 14–15

Educational Initiatives Student Learning Study (EI SLS), 3, 22, 29–31, 83, 254

Educational input expansion. See Input expansion

Education Department, U.S., TIMSS project of. See Trends in International Mathematics and Science Study

Education for Self Reliance (Tanzania), 184

Education goals: and consequences of flat learning profiles, 33–47; and expanded schooling, 14–18, 62–78; and grade learning profiles, 18–21; and illustrations of flat learning profiles, 21–33; importance of setting and tracking, 76–78; and Millennium Development Goals, 13–14; schooling goals vs., 13–50. See also Learning goals

Education guarantee scheme (EGS), 156

Education management information systems (EMIS): and inputs used to fill learning gap, 99–101; and “school quality,” 95–99

Education objectives. See Education goals

Education production functions, 101–07

Effect size of inputs, 96–98

Effervescent innovation, 152–54

EGRA+ (Early Grade Reading Assessment Plus, Liberia), 200

EGS (education guarantee scheme), 156

Egypt: dropouts in, 80, 81; enrollment and attainment vs. learning profiles in, 65, 66; level of learning in, 45, 46; TIMSS assessment in, 43

EI SLS (Educational Initiatives Student Learning Study), 3, 22, 29–31, 83, 254

El Salvador, TIMSS assessment in, 43

EMIS. See Education management information systems
Empirical learning profiles, 58–60
Enforceability and accountability, 138, 139–40
Enrollment expansion: drive for, 51–52; and education goals, 62–64; grade attainment profiles vs., 54; steepened learning profiles vs., 64–76
Epple, Dennis, 191
Equilibrium allocations, Pareto optimality of, 141–42
Europe, higher education system in, 210–12
Evaluation. See Assessments
Evidence-based decisionmaking: based on EMIS-visible input expansion, 95–99; camouflage for lack of, 131–36; using cherry-picked estimates, 106–07
Evolution: as adaptive system, 140–41; of isomorphic mimicry, 121, 129–30; performance pressure in, 224–25; as power to change education, 9–10; source and survival function of variation in, 132–33
Examinations, high stakes for students on, 228–29
Expanded schooling, 51–88; and education goals, 62–64; by expanding number of schooling years, 52; and false dichotomy of “quantity” vs. “quality,” 78–87; and grade attainment profiles, 53–56; and importance of education objectives, 76–78; by increased enrollment, 51–52; international comparisons of learning effects of, 64–76; and learning progress as combination of grade achievement and learning profiles, 56–62; and physical access, 82; and schooling goals, 14–18; and universal schooling target, 51–53
Expenditures and learning achievement, 107–13. See also Funding
Experiential learning, 236–37
Externalities: negative, 186; positive, 187
Ferry, Jules, 175
Ferry laws, 175
Filmer, Deon, 45–49, 53–56, 82, 254
Financial support. See Funding
Finland: learning pace in, 117; spending and learning outcomes in, 111
Foucault, Michel, 172
Fraker, Andrew, 237
France: rise of schooling in, 175; universities in, 210–11
Free public education, 84–86
Friedman, Milton, 189
Functional standards, 133, 134
Funding: and accountability, 138; for education in Brazil, 214; and learning achievement, 107–13; for starfish ecosystems, 195, 237–39, 240
Ga (Ghana), private schools in, 198, 199
Geometry skills in Andhra Pradesh (India), 24–25
GER (gross enrollment rate), 17, 178
Germany, measures of progress in, 115–17
Ghana: dropouts in, 81; enrollment and attainment vs. learning profiles in, 65, 66, 67–70; flat learning profiles in, 53; grade attainment profiles in, 54–55; level of learning in, 45, 46; overambitious curricula in, 161; private schools in, 198, 199; TIMSS assessment in, 43
Girls as dropouts, 83, 84
Glewwe, Paul W., 158
Gmelin, Jens, 115, 117
Goldin, Claudia, 191
Good, Harry Gehman, 177
Government-run schools: inculcation of beliefs by, 165, 166–71; in Punjab (Pakistan), 124–26; small jurisdictions for, 11, 241–42; as starfish ecosystems, 199–201. See also Public schooling

Grade attainment: in cohort learning profiles, 19, 53–56, 60–62, 63; expanding, 52–53; learning effects of increasing, 64–76; and learning progress, 56–62; and school learning objectives, 73; trends in, 15–16. See also Universal schooling

Grade completion profiles. See Grade attainment profiles

Grade learning profile: Andhra Pradesh Randomized Evaluation Studies of, 22–25; ASER survey of, 25–29; in cohort learning profiles, 60–62, 63; consequences of flat, 33–47; defined, 20; Educational Initiatives study of, 29–31; illustrations from India of flat, 21–33; and learning progress, 56–62; as link between schooling and education goals, 19–21; link to assessment results of, 36–39; and PISA and TIMSS assessments, 34–47

Grade nine achievement, 65–66

Great Proletarian Cultural Revolution (China), 182

Greece, meeting learning goals in, 48

Gross enrollment rate (GER), 17, 178

Growing Public (Lindert), 190

Guatemala, gross enrollment rate in, 17, 178

Gundlach, Eric, 115, 117

Hanssen, Robert, 166, 169–70

Hanushek, Eric, 44, 116

Hasan, Amer, 47–49

Healey, F. Henry, 153

Heston, Alan, 255

Hierarchical power, 6

Higher education. See Universities

High stakes testing for students, 228–29

Himachal Pradesh (India): cohort learning profiles in, 60–62, 63; PISA assessment in, 33–42

Holland. See Netherlands

Hoxby, Caroline, 189

Human Development Index, 17

Human Development Report (UN, 2010), 17

Hyderabad (India), private schools in, 199

IASSD (international assessment student standard deviation), 91, 98

IB (International Baccalaureate), 212–13

IDEB (Índice de Desenvolvimento da Educação Básica), 214

Idea and spread of public schooling, 180–85

IEA (International Association for the Evaluation of Educational Achievement), 255

Inculcation of beliefs, 165, 166–71

India: cameras in classrooms in, 122; cohort learning profiles in, 60–62, 63; community-hired teachers in, 122, 156–58; consequences of flat learning profiles in, 33–47; dropouts in, 81, 83; functions and activities in, 203, 204; illustrations of flat learning profiles from, 21–33; learning achievement in, 103, 105; learning pace in, 57, 90–91; level of learning in, 45, 46; overambitious curricula in, 158–61; physical abuse in, 4, 83, 128–29; PISA assessment in, 33–42; private schools in, 7–8, 129, 198, 199; Right to Education Act in, 7, 219; schooling vs. education in, 1–4; teacher salaries in, 150; tutors in,
India Human Development Survey (2005), 128–29

Índice de Desenvolvimento da Educação Básica (IDEB), 214

Indonesia: dropouts in, 80, 81; enrollment and attainment vs. learning profiles in, 65, 66; learning pace in, 91–92, 117, 118; level of learning in, 45, 46; meeting learning goals in, 48; PISA assessment in, 41, 46; spread of public schooling in, 183–84; teacher training in, 147–48; TIMSS assessment in, 43

Inequality of government vs. private schools, 125–26

Information: and accountability, 138, 139; school choice based on, 228, 229–31

Infrastructure and learning outcomes, 95, 96, 107–08

Innovation: choice of, 134; community teachers as, 155–58; effervescent, 152–54; evaluation of, 132–35; by innovative leaders, 151–52; openness to, 131, 133, 215–20, 239–40; overambitious curricula vs. remediation as, 158–62; resisting disruptive, 151–63; rigorous experimentation to test out, 235–37; scaled, 135, 151, 152–54, 201–06; in spider systems, 154–63; technology as, 162–63. See also Disruptive innovation

Input expansion, 3, 89–119; as camouflage, 145–50; and cost of meeting learning goals, 107–13; cumulative impacts of, 106; effect size of, 96, 97, 98; failure to fill learning gap by, 99–101; and learning achievement, 95–99, 101–07; organizational and systemic changes vs., 122–23; and performance of Western vs. East Asian countries, 113–19; progress defined in terms of, 95–99; scope of, 97; and slow learning pace in developing countries, 90–94; wedge size of, 96–99

In Search of Excellence (Peters & Waterman), 154

In-service training, 224

“Instructional rounds,” 232

International assessment student standard deviation (IASSD), 91, 98

International Association for the Evaluation of Educational Achievement (IEA), 255

International Baccalaureate (IB), 212–13

International comparative assessments, 34–47; characteristics of, 34; developing countries vs. OECD countries, 39–44; enrollment and attainment vs. learning profiles, 64–76; linking grade learning profiles to results of, 36–39; performance of best (and richest) developing countries, 44–47; scaling of, 34

Iran: learning pace in, 92; level of learning in, 45, 46; TIMSS assessment in, 43

Isomorphic mimicry, 6–7, 129–31; and challenges to scaling, 152–54; dangers of, 143; defined, 121; and input improvements, 145–50; and lack of evidence-based decision making, 131–36; and resistance to disruptive innovation, 151–63; and rise of spider schooling systems, 165, 185; and survival of organizations, 130, 143–44; system characteristics leading to, 131, 132; due to weak systems of accountability, 136–43

Italy, universities in, 211
Jamaica, learning achievement in, 102–04
Japan: meeting learning goals in, 48; rise of schooling in, 172, 173–74
Jordan: learning pace in, 91–92, 118; level of learning in, 45, 46; PISA assessment in, 41, 46; TIMSS assessment in, 43
Katz, Donald, 136
Katz, Lawrence, 191
Kazakhstan, learning pace in, 118
Kemal, Mustafa, 174–75
Kenya: contract teachers in, 122, 145–47; early intervention for reading in, 200; expanded schooling in, 75–76; free public education in, 85; learning pace in, 94; private schools in, 122; smaller class sizes in, 145–47; textbooks in, 158
Kingdon, Geeta, 126–27
Korea, meeting learning goals in, 48
Kremer, Michael, 147, 158
Kuwait: level of learning in, 46; TIMSS assessment in, 43
Kyrgyzstan, learning pace in, 118
Labor-productivity-resistant services, 194
Lagos (Nigeria), private schools in, 198, 199
Laicism of Third Republic (France), 175
Language, learning pace for, 58
Law for the Maintenance of Order (Turkey), 175
Law of Unification of Instruction (Turkey), 174
LEAPS Science and Math schools in South Africa, 220
LEAPS (Learning and Educational Achievement in Pakistan Schools) study, 31–33, 124–26, 199, 200, 254
Learning achievement profile: Andhra Pradesh Randomized Evaluation Studies of, 22–25; ASER survey of, 25–29; best (and richest) developing countries, 44–47; consequences of flat, 33–47; defined, 14; developing countries vs. OECD countries, 39–44; Educational Initiatives study of, 29–31; effect of student and parental background on, 102; empirical vs. causal, 58–60; and expenditures, 107–13; illustrations from India of flat profiles, 21–33; input effect on, 95–99, 101–07; LEAPS study of, 31–33; learning effects of steepening, 64–76; and learning pace, 56–60; link to assessment results of, 36–39; and meeting learning goal for all children, 47–50; PISA and TIMSS assessments of, 34–47
Learning and Educational Achievement in Pakistan Schools (LEAPS) study, 31–33, 124–26, 199, 200, 254
Learning assessments. See Assessments of learning
Learning goals: cohort-based, 47–50; cost of meeting, 107–13; input-based plan to meet, 99–101; schooling goals linked to, 19. See also Education goals
Learning input expansion. See Input expansion
Learning outcomes: and learning materials, 95, 96, 107–08; and spending, 107–13
Learning pace: in developing countries, 90–94; and flat learning profiles, 56–60; in OECD vs. developing countries, 113–19
Lebanon: level of learning in, 45, 46; TIMSS assessment in, 43
Lesotho: expanded schooling in, 75, 76; learning pace in, 94
Liberia, early intervention for reading in, 200
Lindert, Peter, 190
Literacy skills. See Reading skills
Local districts in U.S., 241
Local government control of schools, 8, 195, 220–24, 240
La Loi de malheur (Belgium), 176
Macedonia, level of learning in, 46
Madhya Pradesh (India), education guarantee scheme in, 156
“Make vs. buy” decision, 168, 170–71
Making Services Work for the Poor (World Bank), 137–38
Malandi District Experiment (Kenya), 200
Malawi: dropouts in, 81; expanded schooling in, 75, 76; free public education in, 85–86; learning pace in, 94
Malaysia: learning pace in, 92; level of learning in, 45; PISA assessment in, 41; TIMSS assessment in, 43
Mali: access to education in, 82; dropouts in, 79, 81; early intervention for reading in, 200; grade attainment profiles in, 54
Maoist regimes and spread of public schooling, 182–83
Market equilibrium and socially desirable outcome, 186
Market failures, 186–87
Marxist-Leninist regimes and spread of public schooling, 182–83
Mastery level, 64
Mathematic skills: in Andhra Pradesh (India), 23–25; ASER test of, 25–29; learning pace for, 56–58, 91–94; PISA assessment of, 35. See also Arithmetic skills
Mauritius: expanded schooling in, 76; learning pace in, 94; PISA assessment in, 42
Mead, Margaret, 11, 179
MEASURE DHS (Monitoring and Evaluation to Assess and Use Results Demographic and Health Surveys) project, 254
Meiji Restoration, rise of schooling in, 172, 173–74
Mexico: conditional cash transfers in, 86; dropouts in, 81; government vs. private schools in, 200–01; learning pace in, 118; level of learning in, 44, 45, 46; meeting learning goals in, 48; PISA assessment in, 41, 42, 46; spending and learning outcomes in, 111; spread of public schooling in, 183
Middle East, spread of public schooling in, 183
Millennium Declaration, 172
Millennium Development Goals, 13–14, 15, 18, 87, 172
Mimicry. See Isomorphic mimicry
Minimal Learning Levels (MLL), 158, 159
Miranda (Venezuela), PISA assessment in, 41
MLL (Minimal Learning Levels), 158, 159
“Money follows the student” schemes, 189–90, 214, 228
Money handling, ASER test of, 27
Monitoring and Evaluation to Assess and Use Results Demographic and Health Surveys (MEASURE DHS) project, 254
Montenegro: learning pace in, 118; PISA reading test scores in, 46
Moore, Gordon, 193
Moore’s law, 193–94
Morocco: level of learning in, 45, 46; TIMSS assessment in, 43
Moulin, Sylvie, 158
Mozambique: expanded schooling in, 75, 76; learning pace in, 94
“Municipalization” of schools in Chile, 8
Muralidharan, Karthik, 22, 253

NAEP (National Assessment of Education Progress), 114–15, 254–55
Namibia: expanded schooling in, 75, 76; learning pace in, 94
NAP (normative as positive), 186–91
National Assessment of Education Progress (NAEP), 114–15, 254–55
National Center for Education Statistics, TIMSS project of. See Trends in International Mathematics and Science Study
Nation-states: control of socialization by, 165, 173, 180–85; spread of public school in, 183–84
NCLB (No Child Left Behind) Act (2001), 229–30
Negative externalities, 186
Netherlands: choice-based system in, 241; rise of schooling in, 175–76; vouchers in, 190
Net learning, 37–38
“Never enrolled,” attainment deficits due to, 80–82
NGO schools. See Nongovernmental organization schools
Nicaragua, technology in, 162
Niger, school access in, 82
Nigeria: dropouts in, 81; gross enrollment rate in, 17, 178; level of learning in, 45, 46; private schools in, 198, 199

No Child Left Behind (NCLB) Act (2001), 229–30
Nongovernmental organization (NGO) schools: in India, 1, 122, 161; in Kenya, 146; in starfish ecosystems, 197–98
Nordhaus, William, 194
Normative as positive (NAP), 186–91
Novelty. See Innovations
Numeracy skills. See Mathematic skills
Nyerere, Julius Kambarage, 184

OECD countries: irrelevance to developing countries of learning from experience of, 119; performance comparison with developing countries of, 39–42; PISA results for, 22, 34, 35, 39–42, 255; spending and learning outcomes in, 111
Oman, TIMSS assessment in, 43
Operational core of organization, 143–44
Oportunidades (Mexico), 86
Organizational learning, 135–36
Organizational structure, 143–44
Orissa (India), learning achievement in, 103, 105
Ostrom, Elinor, 6
Outcomes and spending, 107–13
Out-of-school children, 26, 39, 47, 64
Overgeneralization of applying Western schooling standards globally, 190–91

Pakistan: dropouts in, 81; gross enrollment rate in, 17, 178; learning profiles in, 31–33; performance pressure in, 225–26; private schools in, 122, 125, 199, 200; teacher training in, 148–49; value-subtracting school systems in, 124–26
Palestine, level of learning in, 35
Panama: learning pace in, 118; PISA assessment in, 41
Parental background, effect on learning achievement of, 102
Pareto optimality of equilibrium allocations, 141–42
Penn World Tables, 255
Performance pressure, 195, 224–31, 240
Peru: dropouts in, 80–81; lack of evaluation in, 134; learning pace in, 118; level of learning in, 45, 46; PISA assessment in, 41
Peters, Thomas J., 154
Philippines: dropouts in, 80, 81; enrollment and attainment vs. learning profiles in, 65, 67, 70, 71–72; level of learning in, 45, 46
Physical abuse in Indian schools, 4, 83, 128–29
Pinching in Indian schools, 4, 83, 128–29
PISA. See Program for International Student Assessment
Planners vs. searchers, 6, 10
Poland, spending and learning outcomes in, 111
“Polycentric” systems, 6
“Positive externalities,” 187
Poverty. See Socioeconomic conditions
Powell, Walter W., 7, 131
PPP (purchasing power parity), 110–11
Pratham: ASER assessment by, 25–29, 253; remediation by, 161, 197; testing and evaluation in Uttar Pradesh (India) by, 1–2
Pritchett, Lant, 44, 47–49, 160, 200–01
Private schools and schooling: in Africa, 122, 198, 199; budget-level, 198–99; in India, 7–8, 129, 198, 199; in Punjab (Pakistan), 122, 125, 199, 200; and spider systems, 8; as starfish ecosystems, 11, 198–99, 241
PROBE report (Public Report on Basic Education in India, 1998), 4, 128
Professional associations, 233–34
Program for International Student Assessment (PISA): aims of, 39–40; in best (and richest) developing countries, 44–47; in developing countries vs. OECD countries, 39–44; enrollment and attainment vs. learning profiles in, 73, 74; on flat learning profiles in India, 22, 33, 34–36; on government schools, 200–01; and learning goals, 47–49; on learning pace, 91; levels of performance in, 34, 35; linking grading learning profiles to results of, 36–39; overview, 255; scaling of, 34; on spending and learning outcomes, 110–11; target population of, 40
Programme in Student Assessment, 255
PROGRESA (Mexico), 86
“Public” economics, 186
Public Report on Basic Education in India (PROBE report, 1998), 4, 128
Public schooling: demand-driven by modernizing economy, 179–80; and isomorphic mimicry, 165, 185; normative as positive in, 186–90; and overgeneralization, 190–91; rise of, 171–77; spread of, 177–85; supply-driven by need for nation-state control of socialization, 180–85; vouchers for, 189–90. See also Government-run schools
Public sector bureaucracy, rise of, 123
“Pull” factors for dropouts, 83, 84
Punjab (Pakistan): learning profiles in, 31–33; private schools in, 122,
125, 199, 200; value-subtracting school systems in, 124–26
Purchasing power parity (PPP), 110–11
“Push” factors for dropouts, 83–84
Qatar: learning pace in, 118; PISA assessment in, 41; TIMSS assessment in, 43
“Quality”: increased inputs in plans to improve, 95–99; “quantity” vs., 78–87; starfish ecosystem traits to produce, 195. See also Starfish ecosystems of educators
Radio-based instruction in Nicaragua, 162
Rajasthan (India), learning achievement in, 103, 105
Reading skills: ASER test of, 25–29; early intervention programs for, 200; evaluation in India for, 2–3; learning pace for, 93–94; PISA assessment of, 35, 39, 40
Read-Learn-Lead (RLL, Mali), 200
“Reforms” as isomorphic mimicry, 131, 134–35
Reimers, Frederick, 148–49
Reitor Global University Rankings, 256
Religion and spread of public schooling, 183
Remediation, 161, 197
Rent-extracting school systems, 123–24, 144
Resource expansion. See Input expansion
Retention. See Dropouts
Right of Children to Free and Compulsory Education Act (Right to Education Act, India, 2010), 7, 219
RLL (Read-Learn-Lead, Mali), 200
Roberts, John, 150, 236
Robinson, James, 191
Romania: learning pace in, 118; PISA reading test scores in, 46
Romano, Ricard, 191
SACMEQ (Southern and Eastern Africa Consortium for Monitoring Educational Quality), 74–76, 92–94, 255
Saudi Arabia: level of learning in, 45, 46; TIMSS assessment in, 43
Scale, economies of, 188–89, 205
Scale and Scope (Chandler), 205
Scaled innovations, 135, 151, 152–54, 201–06
Scaling of assessment results, 34
Scaling up, 154, 203
Scholarships, targeted, 52
School choice based on information, 228, 229–31
Schooling: access to, 82; by bad governments, 17; demand for, 179–80; education vs., 1–4; functions and activities of, 203, 204; Millennium Development Goal for, 13–14; other forms of instruction vs., 206–09; rise of, 171–77; success of expanded, 14–18
Schooling goals, 13–50; achieved capabilities as, 70–73; and consequences of flat learning profiles, 33–47; education goals vs., 13–50; and expanded schooling, 14–18; and grade learning profiles, 18–21; and illustrations of flat learning profiles, 21–33; and meeting learning goal for all children, 47–50; and Millennium Development Goals, 13–14; reverse engineering of, 21; and time in school, 73
Schooling years: expanding number of, 52; and schooling goals, 73
Schumpeter, Joseph, 135
Science: learning pace for, 91–92; PISA assessment of, 35
Scott, James, 6
Searchers vs. planners, 6, 10
Secondary schooling: dropout rate in
move to, 59–60; dropout rate of
girls in, 84; grades covered by, 66;
universal, 52, 57, 58
Secularist regimes with dominant
religion, 183
Seeing Like a State: How Certain
Schemes to Improve the Human
Condition Have Failed (Scott), 6
Self-organizing systems, 6
Serbia, PISA reading test scores in, 46
Seychelles: expanded schooling in, 76;
learning pace in, 94
Shah, Neil, 237
Singapore, level of learning in, 45
Skills vs. beliefs, 167
Smith, Adam, 141, 186
SMRS (Systematic Method for Read-
ing Success, South Africa), 200
Socialization process: control by
nation-states of, 165, 173,
180–85; direct control vs.
third-party control of, 165,
166–71
Socioeconomic conditions: and grade
attainment profiles, 55, 56; and
physical abuse in India, 128–29;
and school performance, 230
South Africa: dropouts in, 80, 81;
early intervention for reading in,
200; expanded schooling in, 75,
76; LEAPS Science and Math
schools in, 220; learning pace in,
94; level of learning in, 45, 46
Southern and Eastern Africa Consor-
tium for Monitoring Educational
Quality (SACMEQ), 74–76,
92–94, 255
South Korea: level of learning in, 46;
PISA reading test scores in, 46;
spending and learning outcomes
in, 111
Spain: spending and learning out-
comes in, 111; universities in, 211
Spending and learning outcomes,
107–13
Spider schooling systems, 164–92;
blocking of great ideas from scal-
ing by, 202; camouflage of, 120–
63; demand-driven by modernizing
economy, 179–80; disruptive
innovation in, 154–63; inculcation
of beliefs by, 165, 166–71; input
expansion by, 89–119; isomorphic
mimicry by, 165, 185; metaphor
for, 5–6; normative as positive in,
186–90; obsolescence of, 11–12;
overgeneralization in, 190–91;
questions about, 165; rise of, 7–9,
171–77; spread of, 177–85; star-
fish systems vs., 6, 9, 203–06;
supply-driven by need for nation-
state control of socialization,
180–85; vouchers in, 189–90;
weaknesses of, 5–6, 242–43
Sri Lanka, learning achievement in,
103, 104–05
The Starfish and the Spider: The
Unstoppable Power of Leaderless
Organizations (Brafman &
Beckstrom), 5
Starfish ecosystems of educators,
193–243; in Brazil, 214–15;
budget-level private schools as,
198–99; community and NGO
schools as, 197–98; currently suc-
cessful, 196–201; design principles
of, 10–11; examples of, 209–15;
flexible financing of, 195, 237–39,
240; freedom and choice in, 12;
government schools as, 199–201;
in higher education, 210–12; Inter-
national Baccalaureate as, 212–13;
learning from instruction for,
206–09; local operation of, 195,
220–24, 240; metaphor for, 5–6;
openness of, 195, 215–20, 239–40; performance pressure in, 195, 224–31, 240; principles of, 195, 215–39; professional networking by, 195, 231–34, 240; as rebirth of education, 11–12, 242–43; salient features of, 9; spider systems vs., 6, 9, 203–06; technical support for, 195, 234–37, 240; training to support, 235; unleashing power of, 9–10, 201–06; variety of implementations of, 196, 239–42

Student background, effect on learning achievement of, 102, 230

Summers, Robert, 255

Sundararaman, Venkatesh, 22, 253

Swaziland: expanded schooling in, 76; learning pace in, 94; level of learning in, 46

Syria, TIMSS assessment in, 43

Systematic Method for Reading Success (SMRS, South Africa), 200

System problems and economic explanations, 140–43

Tamil Nadu (India), PISA assessment in, 34–36, 37, 41

Tanzania: dropouts in, 59–60, 81; expanded schooling in, 76, 86–87; learning pace in, 57, 58, 93–94; spread of public schooling in, 184

Targeted scholarships, 52

Teachers: absences in India of, 128; assignment of, 222, 223–24; civil service, 4, 126–29; community-hired, 122, 155–58; contract, 4, 122, 126–29, 156–58; firing of, 139–40; hiring of, 222, 223–24; in India, 4, 122, 126–29; local responsibility for, 222, 223–24; salaries, 149–50; unions for, 234. See also Teacher training and qualifications

Teacher-to-pupil ratio and learning outcomes, 95, 96, 107–08

Teacher training and qualifications: as camouflage, 147–49; in-service, 224; and learning outcomes, 95, 96, 97, 107–08; pre-service, 148; to support starfish systems, 235

Technical core of organization, 143–44

Technology, 162–63

Teller, James David, 177

Test performance, high stakes for students on, 228–29

Test preparation firms, 209

Textbooks in Kenya, 158

Thailand: gross enrollment rate in, 178; learning goals in, 48; learning pace in, 92, 118; level of learning in, 45; PISA assessment in, 42, 46; TIMSS assessment in, 43

THE-QS (The Times Higher Education Supplement–Quacquarelli Symonds) World University Rankings, 211, 256

Thick vs. thin accountability, 227–28

Third International Math and Science Study (TIMSS). See Trends in International Mathematics and Science Study

Third-party contractible instruction, 165, 166–71

Third Republic (France), laicism of, 175

Three-dimensional diagram linking grade learning profiles to assessment results, 36–39

Times Higher Education Supplement–Quacquarelli Symonds (THE-QS) World University Rankings, 211, 256

Time telling, ASER test of, 27

TIMSS. See Trends in International Mathematics and Science Study

Tooley, James, 198
Trends in International Mathematics and Science Study (TIMSS): in Chile, 8; and cohort learning goal deficit, 49; enrollment and attainment vs. learning profiles in, 64–73; on flat learning profiles in India, 34, 42–44; on learning pace, 91; overview, 255

Trinidad and Tobago: learning pace in, 118; PISA assessment in, 41

Tunisia: learning pace in, 92, 118; level of learning in, 45, 46; PISA assessment in, 41, 46; TIMSS assessment in, 43

Turkey: enrollment and attainment vs. learning profiles in, 65; grade attainment profiles in, 54, 55; learning pace in, 92; level of learning in, 45, 46; meeting learning goals in, 48; PISA reading test scores in, 46; rise of schooling in, 174–75

Tutors in India, 122, 161, 197

Uganda: expanded schooling in, 75, 76; learning pace in, 94

Ukraine, spread of public schooling in, 192

United Arab Emirates, PISA assessment in, 42

United Kingdom (UK): higher education system in, 210–12; PISA reading test scores in, 46

United Nations (UN): Human Development Index, 17; Millennium Development Goals, 13–14, 15, 18, 87, 172

United States (U.S.): higher education system in, 210–12; learning goals in, 48; level of learning in, 45, 46; local districts in, 241; NAEP of, 114–15; spending and learning outcomes in, 111

Universal basic (through grade 9 or 10) schooling, 52–53, 65–70, 173

Universal Declaration of Human Rights, 14

Universal primary (through grade 6) schooling: achieving Millennium Development Goal for, 13–15, 18, 87, 172; enrollment and attainment vs. learning profiles in, 75–76; in Mexico, 48; in Turkey, 55

Universal schooling: general increase in, 178, 179, 191; not resulting in universal proficiency, 1–4, 56–62.

See also Spider schooling systems

Universities: examinations to determine entrance into, 229; rankings of, 255–56; as starfish systems, 210–12

Uruguay: learning pace in, 118; level of learning in, 45, 46; meeting learning goals in, 48; PISA assessment in, 42, 46

Utah, vouchers in, 190

Uttar Pradesh (India): ASER test administration in, 27, 28–29; cohort learning profiles in, 60–62, 63; Pratham testing and evaluation in, 1–2; private schooling in, 7–8, 129, 199; teacher salaries in, 150; value-subtracting school systems in, 126–29

UWEZO, 58, 59, 255

Value-subtracting school systems, 123–24; in Punjab (Pakistan), 124–26; survival of, 144; in Uttar Pradesh (India), 126–29

Venezuela, PISA assessment in, 41

Viarengo, Martina, 44, 200–01

The Visible Hand (Chandler), 205

Vocational licensing, 209

Vouchers, 189–90

Warwick, Donald P., 148–49

Waterman, Robert H., 154
Webometrics ranking of universities, 211, 256

“Welfare” economics, 186

Window dressing, reforms as, 134–35

Woessmann, Ludger, 44, 115–17

World Bank: and APRESt, 22; on economics of education, 186–87; *Making Services Work for the Poor*, 137–38

World Conference on Education for All (2000), 15

Zambia: early intervention for reading in, 200; expanded schooling in, 75, 76; learning pace in, 94

Zanzibar: expanded schooling in, 76; learning pace in, 94

Zimbabwe: expanded schooling in, 76; level of learning in, 45, 46
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Lant Pritchett is a senior fellow at the Center for Global Development and professor of the practice of international development at Harvard’s Kennedy School of Government.