

Attaining the Learning Target

A Policy Package to Promote Literacy for All Children



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ABSTRACT



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“Learning poverty” is the measure of the number of children who cannot read and understand a simple story by age 10. Half of the world’s children experience learning poverty, failing to acquire foundational skills such as basic literacy by the end of primary. Learning poverty is a major component of the global learning crisis, and eliminating it is an urgent development objective, akin to the World Bank’s twin goals to ending poverty and increasing shared prosperity. To call attention to the magnitude and urgency of the learning crisis, the World Bank launched the Human Capital Project and set an accompanying learning target: by 2030, to halve the number of children who fail to learn to read by age 10. To achieve this goal, most successful countries will strengthen their education systems while also applying a set of targeted interventions to improve literacy. This paper describes that package of policy interventions, hereafter referred to as the Literacy Policy Package (LPP).

The LPP describes how systems can apply targeted interventions to improve reading. It lays out key elements that have proven successful in rapidly improving reading proficiency levels at scale. These are:

- (1) Assure political and technical commitment to making all children literate;
- (2) Ensure adequate amounts of effective literacy instruction by supported teachers;
- (3) Provide quality, age-appropriate books and texts to children;
- (4) Teach children first in the language they speak and understand best; and
- (5) Foster children’s language abilities and love of books and reading.

This paper describes the LPP and discusses what World Bank client countries and the Bank can do to successfully implement it.

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List of Acronyms

ECE	early childhood education
EGRA	Early Grade Reading Assessment
ELINL	Early Literacy in National Language
GEEAP	Global Education Evidence Advisory Panel
HCI	Human Capital Index
HCP	Human Capital Project
HIC	high-income country
LIC	low-income country
LMICs	low- and middle-income countries
LPP	Literacy Policy Package
PASEC	Programme d'analyse des systèmes éducatifs de la Confemen
PISA	Programme for International Student Assessment (PISA)
RISE	Research on Improving Systems of Education (RISE)
SDGs	Sustainable Development Goals
TIMSS	Trends in International Mathematics and Science Study



Literacy is a bridge from misery to hope. It is a tool for daily life in modern society. It is a bulwark against poverty and a building block of development, an essential complement to investments in roads, dams, clinics and factories. Literacy is a platform for democratization, and a vehicle for the promotion of cultural and national identity. Especially for girls and women, it is an agent of family health and nutrition. For everyone, everywhere, literacy is, along with education in general, a basic human right.

- Kofi Annan

INTRODUCTION

The 2018 *World Development Report* shows that far too many children fail to acquire basic skills of literacy and numeracy. Only about half of primary-school-age children in low- and middle-income countries (LMICs) can read and understand a short text passage or story by age 10; these children experience “learning poverty” (World Bank 2019a). The crisis is even more pronounced in low-income countries (LICs), where 90 percent of children are in learning poverty (World Bank 2019a). Part of the problem is that too many primary-school-age children are not in school – globally this number is estimated at 59 million (UIS 2018).¹ However, even when children are in school, many are failing to learn to read.

Reading with comprehension is arguably the most important skill any child should learn in her early school years. Children need to learn to read before they can read to learn. The ability to read is a gateway to all types of academic learning. Without basic reading proficiency, children will most likely fail to become numerate and may experience great difficulty in mastering key socioemotional skills like self-regulation (Skibbe et al 2019). While proficient readers can progress in school, children who cannot read by late primary find it hard to catch up in school in later years and are at higher risk of dropping out from school altogether (World Bank 2018; Muralidharan and Zieleniak 2013). Like small children whose physical growth is stunted in their first years of life, children who experience learning poverty are hindered in their ability to learn and become productive members of society because of their failure to acquire this foundational skill early in their lives.

High rates of illiteracy put the Sustainable Development Goals (SDGs) in jeopardy. Current rates of progress will leave many countries falling short of these goals. Demographic trends in LICs aggravate the problem, as more and more children enter education systems that are unable to teach them foundational skills. As with stunting and extreme poverty, learning poverty urgently needs to be eliminated so that learners across the world can capitalize on their opportunities and realize their potential.

The COVID-19 pandemic has exacerbated the learning crisis, especially for the poor. The pandemic has led to massive school closures and a deep global economic recession. As a result of the pandemic, more than 180 countries have closed schools temporarily, leaving – at its peak in early April 2020 – close to 1.6 billion children and youth out of school. The World Bank’s initial impact estimate of this shock indicates that close to 10 million students are at risk of dropping out of primary and secondary education due to the decline in family income alone with girls and other vulnerable populations being most at risk (Azevedo et al 2020). In the absence of

¹This represents a fraction of the total amount of students of primary and secondary school age out of school which is estimated to be over 250 million.

appropriate and effective policy responses, the learning losses from five months of school closures will lead the current generation of students to each lose the equivalent of US\$16,000 in lifetime earnings (at present value), bringing the total loss to approximately \$10 trillion for the current generation of students. We are not yet able to quantify the impact of the COVID-19 crisis on children's and youth's nutrition and mental health. In the long term, the COVID-19 pandemic will erode human capital accumulation, diminish economic opportunities, and increase inequality and social instability worldwide.

The Learning Target promotes the elimination of learning poverty. Eliminating learning poverty is an urgent development objective, akin to the twin goals of ending poverty and boosting shared prosperity. In response, the World Bank has adopted a new global Learning Target for its operational work with LMICs focused on foundational literacy:



*By 2030, reduce by **at least half** the share of children who cannot read by age 10.*

The Learning Target is an achievable goal to guide the World Bank's support to basic education. The target is aligned with, and will help accelerate progress toward, SDG 4: "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all." Moreover, achieving basic reading proficiency by the end of primary school is a precondition to ensuring that "all girls and boys complete free, equitable, and quality primary and secondary education" (SDG 4.1). Failing to achieve the Learning Target is an *early warning* that a country is off-track to achieve SDG 4.

Progress toward the Learning Target will contribute to improvements in the Human Capital Index. To galvanize human capital accumulation, the World Bank launched the Human Capital Project (HCP) in 2017. The HCP helps create political space for national leaders to prioritize transformational human capital investments. It uses three tools to accomplish this:

- (1) the HCI, which quantifies the contribution of health and education to the productivity of the next generation of workers;
- (2) measurements of health and education outcomes and related research; and
- (3) country engagements to tackle the most significant barriers to human capital development.

The HCI compares children’s learning with that of their peers in the world’s leading education systems. The HCI has an education and a health component. The education component considers both attendance and test scores (learning), so variation is due partially to differences in educational access but mostly to differences in learning outcomes. Since children in the leading systems are almost all highly skilled readers, progress toward the Learning Target is also progress on the HCI. Both show increased likelihood that a child will be able to develop and use her human capital in adulthood.

Reaching the Learning Target requires an unprecedented improvement in literacy. While literacy rates are trending in the right direction, progress is far too slow. At current rates, the Learning Target will not be reached. Under the status quo before COVID-19, the Learning Poverty rate in LMICs would decrease from roughly 53 percent to 41 percent by 2030. To reach the goals of halving learning poverty, countries needed to match or exceed the average rates of the fastest-improving 20 percent of countries in their respective regions. Doing this meant at least doubling the rate of progress globally. In Sub-Saharan Africa and South Asia, it required increasing the rate of progress by roughly 2.5 times. With the COVID-19 school closures and ensuing economic crisis, learning poverty is estimated to *rise* to 63 percent in a scenario of low-mitigation and no remediation. Thus, the acceleration needed is even greater (Azevedo 2020).

The Learning Target seeks to catalyze a learning revolution. The Learning Target sharpens the focus of the World Bank’s global support to basic education. It stands to galvanize national and international efforts to fully eliminate learning poverty and spur a learning revolution. This starts with each country setting its own national learning target and aligning political and financial commitments to achieve it. As the largest external financier of education, the World Bank’s role is to help countries achieve these ambitious goals. Other development partners are similarly called to expand their efforts to help leverage and support the required national investments and policy reforms.

Business-as-usual for countries and development partners is not an option. We need to be relentless in calling attention to the prevalence of learning poverty and the magnitude of the learning crisis – both show the urgent need to significantly accelerate efforts to increase the amount and quality of education. Eradicating the learning crisis requires large and persistent financial and political commitments. Progress will come most directly from country efforts, but international development partners will have to be more active and efficient in supporting and catalyzing successful reform efforts (Box S-1).

Box S-1

Investing more or investing better in education?

Unlike what is seen with stock market crashes or epidemics, the crisis in education does not appear overnight. It results from decades of malfunctioning systems and strikes little by little; one student at a time. Most do not realize that there is a learning crisis, which leads to a lack of change. This invisible tragedy can be catastrophic, as providing a decent education to all is a precondition for having a viable economy and society. The macro-financial sector must acknowledge the crisis and redefine education as not only a right, but also as the key driver of growth, development, and competitiveness.

Over the past decades, investment in education has increased substantially. However, there are vast and growing disparities in spending between income groups. In high-income countries (HICs), average government spending on the sector grew more than 54% in real terms since the year 2000. In low-income countries, during the same period overall public spending on education grew on average 227%. Despite this, the difference in spending in dollar terms remains astonishing: While high-income countries spend an average of USD\$8,098 per child, low-income countries spend USD\$188. With 2% of the expenditure of HICs, it is impossible for LICs to deliver the same learning experience.

Providing a high-quality learning experience will require mobilizing significantly more resources in most countries. Changes to pedagogy for reading, texts and supplementary reading materials, teacher training and professional development, supervision, testing regimes, and other inputs all have cost implications. Most systems with low literacy will have to make improvements without dramatic increases in available resources.

Economic growth, which has been the main source of increased education spending, is clearly not enough. In addition to continuous growth, countries need to: (1) increase government revenues as a share of national income (through, for example, taxation) or increase the size of the government sector; or (2) give more priority to education in the government budget. The countries that have had the most growth in education expenditures (Korea and Indonesia, for example) have done it through a combination of economic growth, increased government revenue, and prioritization of education.

There is also room for efficiency gains in LICs. Conditions that prevent learning are fostered by inadequate and inequitable financing policies. Primary schools are those most likely to use “double shift” policies, or to employ the least experienced teachers, or to spend the least on inputs. Multiple distortions of financing, procurement, and delivery systems keep high-quality texts and supplementary books from being developed and delivered to classrooms. Imbalances in urban and rural spending often mean that more resources go to children from families with higher socioeconomic backgrounds. These issues will garner attention in the context of overall systems improvement.

Effective spending is not a matter of funding inputs. Inputs, outputs, and programs have to be clearly linked to outcomes. Results-based financing can be used effectively to sharpen the focus and support the achievement of literacy goals.

Source: Lee and Pedreira 2019

While the Learning Target focuses immediate country efforts on foundational literacy, the World Bank will continue to support countries' longer-term task of building high quality education systems at all levels. The World Bank will sharpen operational engagements in basic education with the integrated set of policies and resources that constitute the Literacy Policy Package (LPP). The LPP is based on evidence from the science of how children learn and from lessons concerning what has worked to achieve foundational literacy at scale. Equitable improvements in literacy learning outcomes have relied on focused efforts alongside investments in systemic reforms. The LPP must be embedded *within* longer-term systems building efforts to achieve gains at scale. It is one piece of a set of actions to achieve the desired changes in the educational system (See Box S-1).

The remainder of this paper presents the LPP in more detail, discussing both the evidence behind it and the proposed steps to its implementation. The paper is divided into four sections: Section 1 reviews what research tells us about the science of how children learn to read; Section 2 presents the policy interventions that make up the LPP and discusses how they can change the learning trajectory of students and help more of them to become proficient readers. It also shows how these interventions can complement the World Bank's overall approach to improving education systems. Section 3 examines how new technologies in education can be harnessed effectively to accelerate progress; and Section 4 discusses the roles of partnerships and country engagement and provides immediate next steps for action.

Box S-2

The Literacy Policy Package is a cornerstone for systemic reform for education quality

The Learning Target will be most successful if it motivates more countries—and a broader group of stakeholders within each country—to focus on making sure that all children learn. To achieve a learning revolution, countries need political commitment to achieve both near- and longer-term changes.

Targeted learning interventions can directly improve foundational literacy. This paper contributes to the definition of targeted interventions in the field of early literacy by laying out key elements that have proven successful in rapidly improving reading proficiency levels at scale. Components of the Literacy Policy Package are meant to “move the needle” on learning poverty in the shortest possible time frames. These keys include:

- Assuring political and technical commitment to making all children literate;
- Ensuring adequate amounts of effective literacy instruction by supported teachers;
- Providing quality, age-appropriate books and texts to children;
- Teaching children first in the language they speak and understand best; and
- Fostering children’s language abilities and love of books and reading can combine to raise literacy outcomes shortly after being implemented.

Targeted interventions must be supported by broader improvements in education systems. While ensuring literacy for all and eliminating learning poverty are essential to the improvement of HCI scores in our progress towards the SDGs, foundational literacy is not enough. Societies have many other aspirations for their education systems, and even a target focused on improving literacy requires progress at all levels of the system, from early childhood education (ECE) to tertiary education. The LPP is therefore designed to be embedded in a broader commitment to promoting learning for all. The latter commitment requires increasing access to education and strengthening all levels of the education system. Focusing the Learning Target on universal reading proficiency at the primary level does not mean limiting the World Bank’s activities to that goal. Rather it means focused actions for literacy can and should spark broader and deeper reforms throughout the system.

Source: Adapted from World Bank 2019

A young girl with dark hair is shown in profile, looking down at a comic book she is holding. She is wearing a plaid shirt. The scene is set at a desk with other papers and a pen. The entire image has a blue tint.

Section 1

THE SCIENCE BEHIND LEARNING HOW TO READ

A robust body of research shows how children learn to read. Reading is by far the most researched of all school subjects. It has been the focus of research for more than a century; billions of dollar-equivalents have been spent and hundreds of thousands of papers and reports have been produced and published. Research is expanding to more countries and contexts and evidence for what works continues to accumulate. These efforts constitute “the science of reading” and the lessons on what policies work. Several meta-analyses (see for example Castles, Rastle and Nation 2018) capture the professional consensus on the pathways to becoming a highly skilled reader, how some children diverge from that path, and what can be done to get them back on track.

Most of today’s high-income economies have drawn on insights from the science of reading

to achieve almost universal reading proficiency for their children. Children in these systems use their reading skills to independently read a growing array of increasingly difficult texts as they progress through school and life. Yet, hope for success at scale in early literacy is not limited to high-income countries. Many LMICs have piloted reading interventions that have been successful; a few have been taken to scale. No unbridgeable divides exist between higher-, middle-, and low-income countries in literacy: good policies lead to good learning outcomes, and these can be taken to scale. Table 1-1 provides a snapshot of countries that have implemented targeted interventions in early grade reading, and the impact of these interventions on reading outcomes, as measured by the Early Grade Reading Assessment (EGRA)². The challenge is to maximize the cases where promising results achieved by the pilots are replicated at scale.

Table 1-1. Selected results from reading interventions in low- and middle-income countries

Country	Duration of intervention (months)	Grade(s)	Schools	Students	Effect Size (S.D.)*	Scale-up (Schools)	Scale-up (Students)
Egypt	18	1-3	166	9,000	0.55	25,000	4,200,000
Guatemala	10	1-3	114	6,000	0.45 ^a	11,668	3,212,544
Jordan	10	1-3	43	12,000	0.46	2,651	400,000
Kenya	22	1-2	547	56,000	0.24	25,000	7,000,000
Liberia	18	1-3	120	16,500	0.80	1,200	70,000
Rwanda	10	1-2	90	31,792	0.55	2,035	1,338,079
Senegal	18	1-6	n/a	6,000	0.80	n/a	n/a

Source: Moore, Gove & Tietjen, 2017

Notes: (a) 0.25 SD is generally considered equivalent to 1 year’s worth of schooling.

² The EGRA measures listening comprehension, letter identification, non-word reading, and oral fluency, among other reading-related subtasks. The content and sequence of these subtasks is based on evidence of how children attain minimum reading proficiency.

Reading with comprehension is a composite skill.³ Like an orchestra making music, reading comprehension is the culmination of several successful subskills working in coordination and harmony. The subskills for reading get learned (mostly) in a rough sequence. The sequence has many overlaps and feedback loops. Oral language develops first, then letter name and sound knowledge, word recognition, then reading of connected text, and then increasingly fluent and automatic reading, with

comprehension. As young readers build these subskills, some “later” subskills build directly on earlier ones: word recognition relies on oral language and decoding, for instance.⁴ Fluency, by contrast, grows along with vocabulary as children continue to learn new words that are likely to be in the texts they read. Different models describe the phases differently (see for example Ehri 2014). The model below describes three phases.

PHASE 1

Language familiarity phase. The first phase of learning to read begins when a child is pre-literate. She learns first to speak, listen, and understand language and to use it for her daily life. She will later learn to use the written symbols that represent the words she knows. With some guidance or instruction, young children can become aware that words are composed of sounds, but this does not happen automatically. It is natural for a child to scream “yes” when asked if she wants something to eat, but it is not natural to notice or think about the sounds of the words that describe that food item. Explicit instruction, which can sometimes begin prior to entry in formal schooling, helps children gain the ability to notice, understand, and manipulate distinct units of sounds in spoken language. Children may also learn a few letter names, how to spell their names, and some rhyming games or songs. They may look at picture books and start to pretend to read. While this is happening, children are hopefully expanding their oral-language vocabularies and knowledge of increasingly complex syntax. Doing all this, especially when it is achieved through being read to regularly by loving caregivers, prepares a child to benefit most as she moves through formal reading instruction.

PHASE 2

Code-cracking phase. This phase usually coincides with the beginning of formal classroom instruction in reading. Students continue to hone skills in recognizing and making word sounds, but they also start to learn about the symbols that make up words. They learn both that these symbols stand for sounds and that they can be combined to make different words.⁵ This is the phase when children learn how letters map to sounds. This knowledge allows them to decode written words using a small set of rules

³ Early reading is best understood as the period from when an individual takes the first steps in reading (usually entering primary school, though this can happen prior to the beginning of formal schooling) of sounds and simple words. Students generally are considered independent readers when they can fluently decode texts, read, and understand them without real-time assistance from a teacher.

⁴ These three phases aggregate larger sets of subskills, which in the professional literature may be described and grouped in different ways (National Reading Panel 2000). The grouping here seeks to present the nontechnical expert with the essential stages of processes whose complexity grows at deeper levels of technical analysis.

⁵ Hereafter, discussion will confine itself to alphabetic languages. These constitute the most common form of writing system, covering just over 70 percent of the world’s population.

about letters, at first through “sounding them out” and then, with practice, more automatically. To decode well, a child must learn the ways almost all the sounds in the language are spelled, and which spelling combinations map to which sounds. This is easier in some languages than others, but most children can learn to decode with good instruction no matter how difficult (“opaque”) or easy (“transparent”) the language is. Readers who learn to decode well become more automatic sooner in word-recognition, but they continue to use decoding knowledge even as advanced readers. By contrast, without mastery of these code-cracking skills, students cannot progress to “automaticity” or become independent readers.

PHASE 3

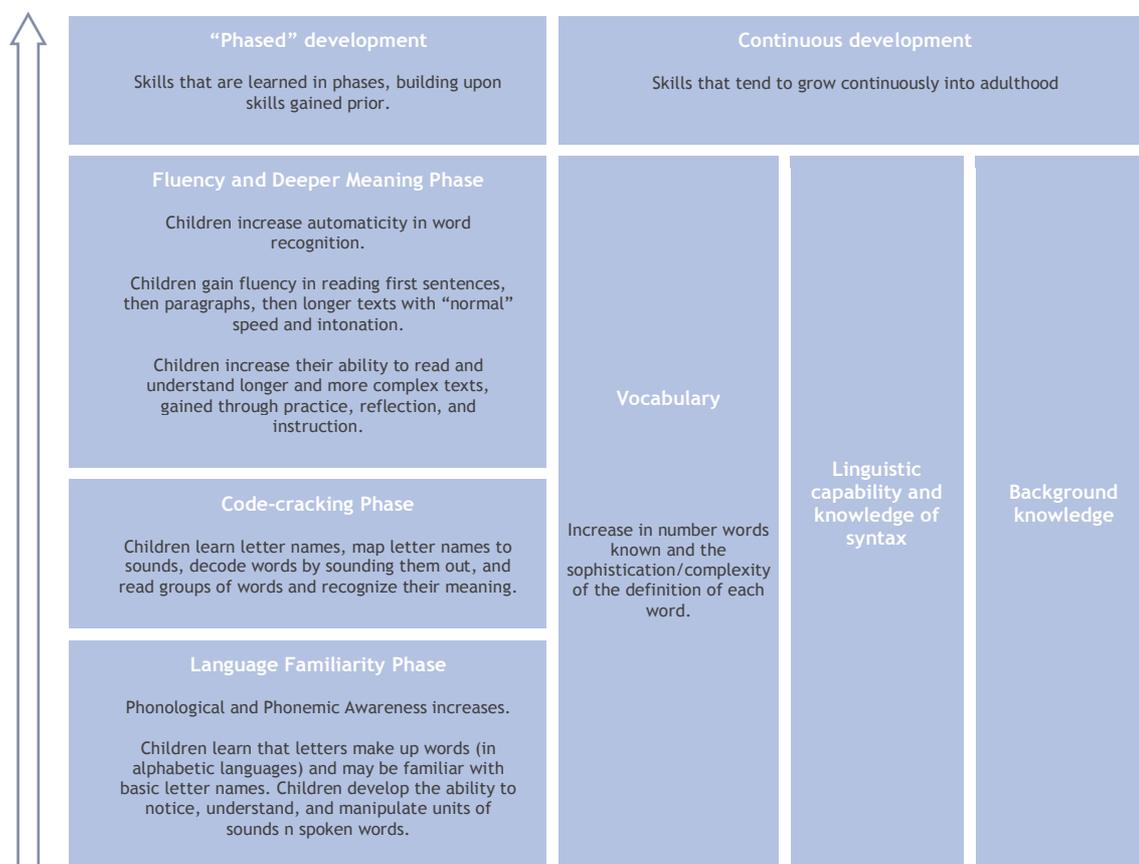
Fluency and deeper meaning phase. As a typical reader reads, practices, and grows in reading experience, subskills mature. Word recognition, previously done through laborious “sounding out” of each syllable, becomes automatic. Young readers become more comfortable reading out loud with normal speed and intonation—achieving “oral reading fluency.” Vocabulary grows, inferential skills increase, and background knowledge accumulates. As this process continues, readers can read and understand a growing array of texts of increasing length and difficulty. They start by reading and understanding words, then sentences, then paragraphs, then whole book-length discourses. During this process, students consolidate the ability to use texts and their meaning to perform a greater variety of tasks necessary for school, work, and civic participation.

Phases overlap, some skills cross phases, and multiple feedback loops exist. One’s stock of vocabulary, for example, increases continuously and throughout life so long as one continues to be exposed to new texts and seek out the meaning of unfamiliar words. But vocabulary increases fastest among children. New words are learned with reference to known words. The same holds for linguistic capacity and background knowledge. Complex syntax builds off simple phrasing. Background knowledge grows and gets added to existing knowledge. These skills start as oral language

skills and later as skills related to both oral and written language. On the other hand, skills such as knowledge of letter-sound correspondence and decoding are sequential, discrete, and relate only to reading. Once students master these discrete code skills, they enlarge their means to build the more continuously developed skills described above. **Figure 1-1** illustrates the path and the phases in becoming a high-skilled reader, though it is important to emphasize that learning to read does not proceed by strict sequence or in clearly defined phases for all children.

Figure 4-1: The Path to becoming a highly skilled reader

Highly-skilled readers read a wide range of texts with speed, efficiency, and comprehension. They extract meaning, interpret, and use texts to serve a wide variety of ends. Reading is not monolithic, and the development of essential reading skills occurs both continuously and in phases.



Children bring basic linguistic capabilities when they start to learn to read.

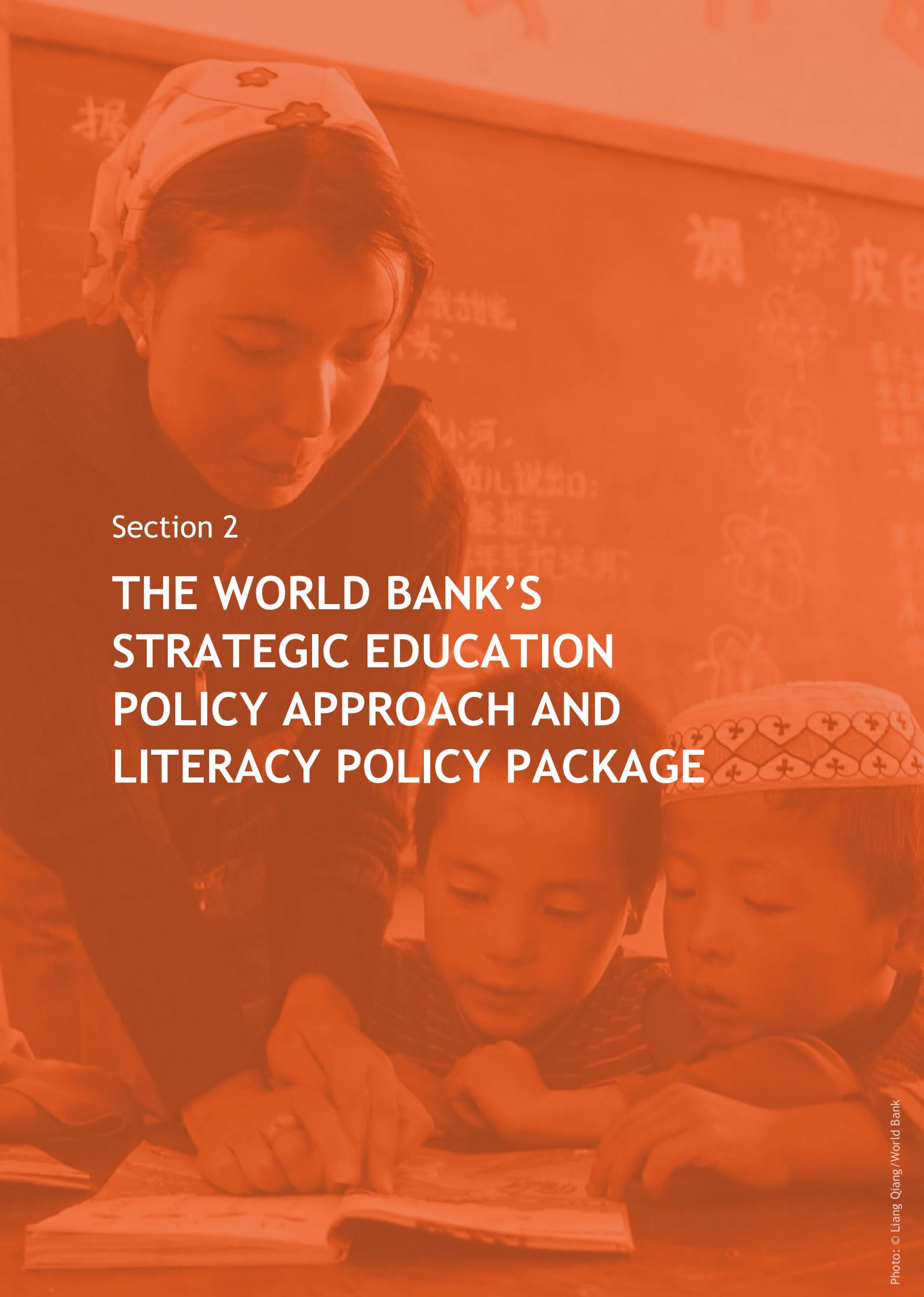
As with the acquisition of other types of skills, *motivation and practice are essential*. A key goal of the Literacy Policy Package is to get children to be independent readers as quickly as reasonably possible so that they can increase the amount (and variety) of texts they read. According to USAID’s Reading MATTERS, the national reading curriculum should allocate at least 90 minutes a day to reading instruction. New insights from the science of learning tell us that learning more readily happens when there is joy, rigor, and purpose. Learning with joy means children have a positive outlook on the process of learning to read while recognizing that failure is part of it. Learning with rigor means children need to be encouraged and challenged to strive for mastery of different reading steps and strive for continuous improvement through more practice. Learning with purpose means that teachers and the

curriculum need to provide relevant reading texts on topics that interest them. Doing so leads to greater enjoyment of reading, which in turn increases motivation and the likelihood of reading more. These positive associations increase time spent reading, advancing positive spirals of practice and deepening of skills.

Languages and writing systems matter for understanding how children learn to read. All languages share some common features. Learning to read in any language—and especially in languages that have alphabetic writing systems—occurs in largely the same way. But characteristics of individual languages and their writing systems can exert a big influence on the process. Some languages may have very transparent and regular spelling patterns but complex syntax and word morphology. Some languages are tonal, and

students are required to learn the appropriate diacritical marks to indicate tones that change word meaning. Some alphabets are short, and some are long. Some have simple rules for how to write vowels, for instance, while others may have complex rules and lots of options. Despite these differences, research shows very high degrees of similarity in language processing across languages and cultures (Nakamura et al 2012).

Consensus on the above points does not imply that all research questions are fully settled. For instance, despite research on similarities in language acquisition and processing, the research base does not equally describe all languages, writing systems, cultural and economic contexts, nor all the reasons for variation among children in reading proficiency. There are, among others, many more studies of *alphabetic* writing systems (writing systems that use letters, e.g. English) than of non-alphabetic writing systems (e.g. Chinese) (Nakamura et al 2012). Yet, countries like China with non-alphabetic languages have drawn on some of the above principles to drive fast progress in achieving reading proficiency of their children at scale. While steady progress accrues, an awareness of the limits of research is part of its careful use.

A woman wearing a white headscarf with a floral pattern is leaning over a desk, pointing at an open book. Two young children, a boy and a girl, are sitting at the desk looking at the book. The boy is wearing a white cap with a pattern. The background is a chalkboard with some faint writing. The entire image has an orange tint.

Section 2

THE WORLD BANK'S STRATEGIC EDUCATION POLICY APPROACH AND LITERACY POLICY PACKAGE

Students all over the world can learn to read, but conditions are not always aligned to support them to do so. The prevalence of learning poverty in LMICs may be easier to understand considering poor basic conditions for learning. Often, schools in LMICs fail to provide these basic inputs and conditions for success. In these countries, students do not arrive at school prepared to learn, and teachers are poorly trained and receive little to no support in their daily teaching. Students lack basic texts and may have no supplementary reading materials. Moreover, many students are taught in languages they do not speak or understand. Those with diverse learning needs may not have access to accessible resources. Any one of these factors by itself can seriously damage the ability of students to learn. And behind them all may lie a weak political commitment to fund and implement policies required improve the situation. Together, these factors shed light on why more than half of young children in the LMICs are failing to learn to read with proficiency.

Solutions require actions at the classroom and systems levels. The Literacy Policy Package focuses on interventions at the classroom level. Books need to be *in the classroom*. Effective instruction needs to be provided by teachers *in the classroom* every single day. The language of instruction must be the one that is best spoken and understood by students *in each*

classroom. The reasons why these conditions for learning are often not in place involve complex and systemic factors along with more straightforward classroom issues. Teachers require better professional development and coaching, but systems for creating and financing these inputs are sometimes not in place or are not working. Books for schools are provided months or even years late, because payment systems and incentives are misaligned. Complex political decisions or interests of different stakeholders prevent good language of instruction policies from being formulated and implemented.

The Literacy Policy Package, therefore, will be implemented in conjunction with the World Bank's Strategic Education Policy Approach. This policy approach contains the policy actions that build robust education systems to put countries on the path to eliminate learning poverty. While reaching the Learning Target is urgent, changing systems takes time and sustained effort. The Literacy Policy Package and the Strategic Education Policy Approach together constitute a way of improving learning outcomes that includes near-term, classroom-focused actions alongside longer-term system-focused actions. Together they seek urgent action and long-term improvements in results. The approach is described next, as a prelude to a detailed description of the LPP.

THE WORLD BANK'S STRATEGIC EDUCATION POLICY APPROACH

The World Bank's vision for the future of learning is one in which learning happens with joy, purpose, and rigor for everyone, everywhere. This vision can only be realized if the entire education system prioritizes and supports student learning. The World Bank's Strategic Education Approach builds on policy

actions that are needed to accelerate learning and that characterize well-functioning education systems. These are presented within five interrelated pillars focused on system management, teachers, resources, schools, and learners. The Literacy Policy Package is fully integrated into each of the pillars (Figure 5-1).

Figure 5-1: How the Literacy Policy Package is fully integrated into the World Bank’s Strategic Education Policy Approach



An enhanced learning experience for everyone, everywhere can only be realized if countries carry out investments and reforms in five pillars that ensure that:

1

Education Systems are well managed – Management capacity means having people with the right skills and motivation working within organizational structures that are aligned toward supporting learning. Countries need clear mandates and accountability, merit-based selection of personnel, and evidence-based decision-making. School principals and leaders also have a part to play, through setting clear roles and responsibilities for staff, ensuring the meritocratic and transparent selection into school positions, and providing critical support to teachers, students, and parents. More broadly, systems must channel

political will towards ensuring that all children are learning. This needs also to be reflected in a willingness to monitor progress at multiple levels through aligned assessments that facilitate remediation for students who fall behind, set age-appropriate milestones for development, train bureaucracies at all levels (including principals and supervisors) on early literacy (USAID 2019) and create the space for iteration and context adaptation, before defining a prescriptive central model (Crouch 2020).

2

Teachers are effective and valued - Improving teacher quality involves ensuring that the teaching career is socially valued and that teachers have the tools, support, and expectations they need to be effective. Successful systems establish the teaching

profession as a meritocratic, socially valued career and hold teachers to high professional standards. They also invest in preservice training with a strong practical component to prepare the next cadre of teaching professionals. They provide teachers with ongoing, tailored, focused, and practical in-service professional development that makes a difference in the classroom. Finally, they provide teachers with tools and techniques for effective teaching, including coherent curricula (with sufficient time devoted to teaching reading), clear pedagogical guidance, and tools to use regular assessments of student's reading skills to guide classroom instruction and teach children at the right level.

3

Learning resources, including curricula, are diverse and high-quality – Systems must not only provide teachers and learners with adequate guidance on what to learn (curricula), they are responsible also for providing the necessary inputs and pedagogical tools necessary to translate the curricula into effective learning for all students. Successful systems ensure that the curriculum is effective (adjusted to the level of the students and the capacity of the system) and provide detailed guidance to teachers through structured lesson plans that can be used by teachers who need them. A robust body of literature exists on the importance of basic physical inputs to enable student learning in school. Assuring that each child has at least one quality, age-appropriate book is critical, as research has shown that the most important predictor of achievement across languages is whether the child has a reading textbook and reading materials at home (Piper 2010).

4

Schools are safe and inclusive spaces – All children should be able to learn in healthy and safe learning environments. This involves having a space to learn that meets minimum infrastructure standards for safety and inclusion, as well as a space with the conditions to prevent and address bullying, discrimination, and violence in and around the school. As the number of countries falling into crisis, fragility, and violence increases, so too does the number of children who attend schools in these contexts. The impact of conflict and protracted displacement on a child's ability to learn is further compounded by often ill-equipped, unsafe, and untrained classroom teachers. Moreover, learning environments themselves must also be inclusive. In practice, this means that teaching and learning practices support all learners, including those with reading difficulties or disabilities. It also means that teaching and learning should take place first in the language children speak and understand – their mother tongue.

5

Learners are prepared and motivated to learn – Robust evidence from countries of all income levels confirms that a child's earliest years are a critical window to build strong foundations for the future. Countries that have achieved progress have expanded access to nutrition, early stimulation, and quality early childhood education, particularly for the most vulnerable children. Efforts to encourage reading—which are critical in creating skilled, motivated readers—start at home and include engaging parents in children's early learning, enrolling children in high-quality services that promote cognitive and socioemotional skills and help them build language and pre-literacy skills (such as print awareness), and improving learning environments outside of school.

THE LITERACY POLICY PACKAGE

The Literacy Policy Package (LPP) is the ensemble of five policies that combine to give countries the best chance to make rapid progress in improving literacy and early grade reading. The Components of the LPP are interrelated (see Figure 5-1) and operate at the system, school, and classroom (teacher-student) levels. The five policies are to:

1

Assure political and technical commitment to making all children literate. This includes developing age-appropriate milestones for literacy acquisition and monitoring progress at multiple levels through aligned assessments that facilitate national target setting and individual or group remediation for students who fall behind.

2

Ensure adequate amounts of effective literacy instruction by supported teachers. This involves providing clear curricula and pedagogical guidance for literacy instruction; ensuring that there is sufficient time to teach reading; delivering focused, practical, and continuous professional development for teachers; and enabling the frequent assessment of student progress so teachers can adjust their pedagogy and teach at the right level.

3

Provide quality, age-appropriate books and texts to children. Provide as many diverse, age- and context-relevant books and texts to children so that they can read in and outside of school. At a bare minimum, ensure that each

child in each grade has the main instructional textbooks, and surround students with a variety of engaging, age-appropriate titles and texts suited to their interests and learning levels.

4

Teach children first in the language they speak and understand best. Ensure that children become literate first in their home language (also known as “L1”), and that any transitions to additional languages later in their schooling are well-planned and well-timed.

5

Foster children’s language abilities and love of books and reading. This involves strengthening language development and awareness in early childhood education (ECE) and emphasizing the importance of daily home reading and positive reading experiences with parents, siblings, and peers.

These components harmonize with the global evidence on effective interventions to foster reading acquisition for all. Among others, they align with USAID’s reading MATTERS conceptual framework, which highlights *mentors, administrators, teachers, texts, extra practice, regular assessment, and standards* as key components, driven by host-country capacity and commitment (USAID 2019). Further, the LPP is aligned with the results of the Research on Improving Systems of Education (RISE) program, which analyzed effective experiences in Kenya, Puebla, Mexico,

and Sobral, Brazil (Crouch 2020).⁶ Finally, the LPP is also aligned with results from the Global Education Evidence Advisory Panel (GEEAP) which, among others, identified structured lesson plans with linked materials and ongoing teacher monitoring and training; and targeting teaching instruction by learning level as good buys in education (Global Education Evidence Advisory Panel 2020).

Each LPP component is described in detail in the section that follows. For each component, the section provides an overview of the evidence of its importance; discusses specific examples of successful implementation; and lays out what the World Bank will do differently to help accelerate progress at the country level. Although country examples are provided per component, systemic interventions that integrate all or several of the five components are more effective than isolated efforts in each front.

⁶ The research found that Kenya, Puebla, Mexico, and Sobral, Brazil quickly improved foundational learning by focusing on a few achievable indicators, using data to generate urgency and inform decision-making, supporting teachers via clear and evidence-based models, and using tight management to ensure the coherence of all necessary inputs (e.g., lesson plans, books) and the scalability of interventions.

Component 1

Assure political and technical commitment to making all children literate.

WHY IS THIS IMPORTANT AND WHAT WORKS?

Success begins with political commitment.

National commitment to the priority of improving literacy and foundational learning is indispensable. When government and education leaders pledge to having every child learn to read, it can unleash the chains of positive actions that make goals reachable. Credible signals of determination from high levels of government often precede the creation and implementation of technical plans. International partners may help raise awareness and promote dialogue, but commitment to change at the national level is key. The “whole-of-government” approach advocated by the Human Capital Project—where contributions and commitment do not solely come from the education ministry—is among the processes to marshal resources and create and solidify political commitment.

Political commitment spurs the implementation of sound national plans to improve literacy at scale. The best technical plans have no value without adequate funding and a country’s willingness to implement them with patience, with persistence, and by following an adaptive learning process. The most successful country efforts in education have in common the political willingness to

fund and implement a sound plan for reading that ensures that:

- 1) the curriculum is grounded in the best available evidence on how children learn to read;
- 2) goals and learning outcome standards are embodied in simple and effective textbooks accessible to all students;
- 3) teacher guides provide explicit guidance and direction to teachers on the activities and techniques for effective instruction;
- 4) progress is monitored at multiple levels through aligned assessments that facilitate remediation for students who fall behind;
- 5) parents and caregivers are actively engaged and supported for home reading and student support;
- 6) teachers are supported with specific coaching and professional development while being held accountable for performance; and
- 7) technology is used innovatively and effectively in a variety of contexts that advance teaching and learning goals.

It is helpful to establish streamlined and time-bound literacy goals together with assessment tools to monitor progress suited to country context. Most school systems where 90 percent of children learn to read have explicit, concrete, and time-bound goals for early grade readers (European Commission 2012). These countries tend to measure progress at national, provincial, district, school, classroom, and individual levels (Garbe, Mallows, and Valtin 2016). By contrast, many countries where most students struggle to learn to read lack such clear goals and assessment mechanisms.

Assessments should capture age-appropriate milestones for literacy development at different levels of the educational system. Some of these key skills include listening comprehension, letter-name knowledge, letter-sound knowledge, vocabulary, oral reading fluency for different grades and stages, and reading comprehension for different grades and stages. Successful systems test for these skills at the beginning of primary school and throughout the year, using a variety of national, international, and classroom-level

assessments. Good initial large-scale national or international assessments help governments know where to start and appreciate how well (or poorly) the system is functioning. Such assessments complement end of year summative assessments, as well as on-going classroom and formative evaluations that allow teachers to identify students’ learning progress and adapt their teaching (see Table 2-1).

Assessments results should be continuously reviewed against national goals to identify areas where teaching and learning can be improved. Each country must combine its ambitions to develop capable readers with realism on where to start focusing efforts for improvement. If, for instance, empirical data shows that students accomplish few correct words-per-minute in oral reading fluency, the best route for improvement may be to strengthen basic decoding skills before moving to advanced skills. When using cross-language and cross-country standards as a reference value in early grade reading, it is important to exercise caution, as very early skills develop at different speeds in different languages.

Table 2-1: Assessment Types and their key characteristics

Source: Clarke 2012

	Classroom	National	International	Examinations
Purpose	To provide immediate feedback to inform classroom instruction	To provide feedback on the overall health of the system at particular grade/age level(s), and to monitor trends in learning	To provide feedback on the comparative performance of the education system at particular grade/age level(s)	To select or certify students as they move from one level of the education system to the next (or into the workforce)
Frequency	Daily	For individual subjects, offered on a regular basis (such as every 3-5 years)	For individual subjects offered on a regular basis (such as every 3-5 years)	Annually and more often where the system allows for repeats
Who is tested?	All students	Sample or census of students at a particular grade or age level(s)	A sample of students at a particular grade or age level(s)	All eligible students

Box 2-1

How many words-per-minute is fast enough for fluency?

While it is theorized that a minimum degree of fluency is needed for readers to comprehend connected text, fluency benchmarks will vary by grade level and by language. A language with shorter words on average, like English or Spanish, allows students to read more words per minute than a language like Kiswahili, where words consist of 10-15 letters or even 20 letters. In other words, the longer the words and the more meaning they relay, the fewer words per minute that need to be read to indicate reading proficiency.

Source: RTI International 2015.

Students learning “transparent” languages, like Spanish or Italian, may quickly learn to decode and start reading connected text relatively early. Students learning a language like English may need more time to master the irregular ways words are spelled. By the end of third

grade, most students should be able to begin to read independently with meaning. At this point cross-country comparisons become easier and more useful (See *Error! Reference source not found.*).

SUCCESSFUL EXAMPLES

When the whole learning ecosystem aligns toward a clear goal of having every child reading and writing paired with robust and sustained assessment mechanisms, sustained change can occur rapidly and at scale. This was seen in the municipality of Sobral in the state of Ceara, one of the poorest in Brazil. The reform started with political leadership committed to the goal of having every child reading and writing by the end of second grade. Aside from political commitment, the most important components of the reform were the use of assessments to measure progress and guide interventions, a focused curriculum, empowered school management, and motivated teachers. By 2001, students were assessed twice a year on literacy, starting from the last year of early childhood education until the end of lower secondary. Results from these assessments shaped and refined specific learning goals and strategies at the

municipality, school, and classroom levels, including the support received by teachers through their continuous professional development programs. Assessments results also determined incentives for teachers, principals and schools who received bonuses if they met learning targets. Measures went beyond formal assessments and also included putting in place strong monitoring systems to track student attendance and support those at risk and their families. By 2010, dropout rates for both primary and lower secondary students had decreased to zero. The results of the reform in Sobral are dramatic. In 2005, Sobral was at the 1,366th position in the IDEB ranking (which measures education quality in primary and lower secondary education in Brazil). Almost a decade later (in 2017), the municipality ranked *first*, ahead of wealthier states such as São Paulo (Loureiro and Cruz 2020).

Political and technical commitment provide an enabling environment to improve literacy outcomes. Chile's more than 20-year commitment to improve education is rooted in its political class's constant support of education reform without regard for shifts in political power. Policy continuity and consensus can be attributed to "large-scale consultation exercises and national education plans that brought together all the major actors and academic authorities of the sector to produce long-term proposals for reform" (Wales, Ali, and Nicolai 2014). Additionally, continuous feedback from the education quality measurement system (SIMCE, Sistema de Medición de la Calidad de la Educación), created at the same time as political prioritization was given to education in Chile, has also been key in maintaining political commitment. Together with results from participating in international assessments, such as the OECD's Programme for International Student Assessment (PISA) and the Trends in International Mathematics and Science Study (TIMSS), SIMCE's measures of learning outcomes are used to set new expectations as a country and to track advances of those goals. Additionally, multiple policy reforms have been implemented in Chile, including setting a minimum standard for teachers' and students' materials, implementing curriculum and pedagogical improvements, and including performance-based incentives for teachers, among others. Consensus in politics and policy, constant measurement, and investment in education have been decisive factors in the improvement of education quality in Chile.

Improving results in reading assessments, which rose by more than 20 points between 2006 and 2009 (as measured by PISA), and repeatedly ranking as the highest performer in the Latin America region are examples of Chile's success.

Assessment results can mobilize country coalitions and streamline national education reform. When Peru ranked last in the 2012 round of PISA, its students' poor performance in reading and math made the headlines across the country. Reformers in the government used this momentum to mobilize public support for a variety of reforms, including investing more in education and improving teachers' career and professional development (Saavedra 2019). By 2015, the PISA results showed important improvements in the reading comprehension performance of Peruvian secondary students and a reduction in the number of students not reaching minimum proficiency (Guadalupe et al 2017). Burundi's superior performance in both EGRA and the Programme d'analyse des systèmes éducatifs de la confemem (PASEC) in the 2009-2014 period is partially credited to the country establishing explicit and concrete learning goals (Guadalupe et al 2017). Disappointing results in the Cambodia's 2010 EGRA scores drove the government to align the national reading goals and policies with current evidence on what works (Graham and Kelly 2018).

WHAT WILL THE WORLD BANK DO DIFFERENTLY?

To support political and technical commitment to making all children literate, the World Bank will...

1

...highlight the issue of literacy and foundational skills at the fore of international educational debates and national policy dialogue. While political commitments are consolidated at the national and subnational levels, the Bank's overall adoption of the Learning Target and measurement of learning poverty will sharpen the focus on literacy and foundational skills where data show progress is lacking. Partnership with governments starts with dual commitment to explore current performance and discuss possible avenues for improvement, including with Bank financial and technical assistance.

2

...support national efforts to set learning targets for numeracy. To be meaningful and relevant to promoting change, target-setting should be a central element of a strategy to accelerate learning: setting learning targets should not be viewed as a simple numerical or statistical exercise. As laid out in the new "Setting Targets for Progress in Reducing Learning Poverty" paper (forthcoming), the World Bank has developed a strategy and a menu of tools to build an evidence-informed strategy and plans to accelerate learning, including initial dynamic simulation models and other data visualization strategies to understand and define clear, measurable, and feasible stretch targets for countries.

3

...help countries build assessment capacity for literacy and for learning. The World Bank is also building capacity for collecting assessment data on literacy and learning in general through the Learning Assessment Platform (LeAP), which aims to improve the quality and availability of global learning data. As part of this initiative, the World Bank has also established a partnership with the UNESCO Institute of Statistics (UIS) to create a global reporting scale that supports countries to report minimum proficiency data from a variety of national, regional, and international assessments. The Bank is also a partner in the development, dissemination, and implementation of the Global Proficiency Framework (GPF), which is a tool for determining minimum proficiency levels for foundational learning in ways that facilitate harmonized reporting of outcomes and comparability of data for reporting on SDG 4.1.

Component 2

Ensure adequate amounts of effective literacy instruction by supported teachers.

Quality classroom instruction promotes literacy. This second component focuses on teachers, more specifically on three aspects of their practice:

- the provision of *coherent curricula*, with enough time devoted to teaching reading and clear and detailed guidance for pedagogy and content for literacy instruction;
- focused, practical, and continuous *pedagogical support* through coaching and professional development to foster better classroom instructional practices; and
- frequent *monitoring of student progress*, enabling teachers to adjust their pedagogy and content to students' learning.

WHY IS THIS IMPORTANT AND WHAT WORKS?

Teachers in many countries are not providing the type, sequence, and/or amount of instruction that students need to learn to read.

Ample evidence shows that when students have high-quality instruction (with respect to content, sequence, and amount) most will learn to read (Castles, Rastle, and Nation 2018). However, many teachers in low-income countries lack the specific knowledge and skills they need to be effective. Evidence of the problem is unfortunately abundant: in Sub-Saharan Africa, for example, the World Bank's Service Delivery Indicator (SDI) survey in six countries shows that 84 percent of grade 4 teachers have not reached the minimum level of competence (Beteille and Evans 2019). Component 2 aims to improve this situation.

Countries with good literacy outcomes rely heavily on a curriculum built around the science of how children learn to read. In these

countries, explicit plans for scope, sequence, progression of instructional activities, and practice underpin their textbooks and teachers' guides. These countries give enough class time to teaching reading, language, and literacy (at least an hour and a half every school day). These curricula are carefully designed to provide systemic instruction that helps the largest number of students go from little or no reading ability to being independent readers by the end of third grade (Beteille 2020). They also are streamlined and focused. Simplification of curricular goals helps teachers prioritize the most important topics and achieve a greater depth of understanding and mastery among students (Pritchett and Beatty 2012). China and Japan, for example, both have a history of coherent and narrowly focused curriculum that students can fully master, accompanied by detailed guidelines for teachers and by textbooks with great depth and a clear

sequence of content. This “mastery approach” is credited with being an important factor in propelling students in these countries to the top of the PISA rankings.

Teachers’ guides can be highly effective in supporting teaching practice. In many cases, teachers’ guides contain detailed lesson plans for teachers that facilitate core instruction while giving them space to adapt and use their professional skills. The GEEAP identified step-by-step lesson plans with linked materials and ongoing teacher monitoring and training as cost-effective investments in education systems that can work even with weak teachers. An analysis of structured teacher guides across 13 countries in the global south finds that “programs that use teachers’ guides show significant impacts on learning outcomes, associated with approximately an additional half year of learning, showing that structured teachers’ guides contribute to improved learning outcomes” (Piper et al 2018). Structured teachers’ guides simplify the job of the teacher and provide guidance not only on what to teach, but also *how* to teach it.

Investments in practical, focused, and continuous coaching and professional development can be highly effective in raising student learning outcomes. Given that not all teachers share the same strengths and weaknesses, successful professional development targets the areas where they need the most support. They also do not try to cover all topics, but rather focus on specific skills with simpler and more classroom-relevant content. Furthermore, good professional development are practical and involve hands-on application and practice. Coaching, mentoring, and communities of practice models (where an on-going local expert provides guidance) where teachers can apply what they learn and iterate based on student responses, have been successful in improving teacher practices. This practice-based professional development can be used to support “lesson fidelity,” that is, the ability of

teachers to implement the pedagogical plan they are given (e.g., structured lesson plans). Crouch (2020) finds that it is important to have evidence-based effective coaching, as this leads to improved learning outcomes amongst students which in turn results in critical teacher motivation.

Feedback from assessment helps teachers identify children who require special attention and “teach to the right level”. (Muralidharan, Singh, and Ganimian 2019) The technique of teaching at the right level ensures that each student is given the task he or she needs to master in his or her learning progression. It means, for example, that students who are struggling with letter sounds continue to work on letter sounds and master them before moving to word reading. This way, “slower learners can spend more time on the basics without being rushed to move on...beyond their understanding” (Muralidharan, Singh, and Ganimian 2019). This type of intervention was identified by the GEAP as cost-effective for contexts where there are a wide variety of learning levels within a class and where students are below the expectations of the curriculum for their grade.

For example, Mindspark centers in India use an adaptive learning software that customizes content based on the level and rate of progress of each student. When students attended these centers after school for a period of four and a half months, they experience an increase in Hindi scores of 0.23 SD and math test scores of 0.37 SD (Muralidharan, Singh, and Ganimian 2019). Another example is the nonformal self-learning program, Kumon. A placement test determines a comfortable starting point that “is usually set slightly below students’ concurrent maximum potential capacity” (Liang, Kidwai, and Zhang 2016). Students receive carefully designed worksheets for practice, and move to new and more difficult worksheets only after demonstrating full mastery of the previous ones.

Getting this integration right is even more critical in the era of COVID-19. First, given the lost months of schooling during COVID-19, it will be critical for Ministries of Education to streamline curriculum so that the most important topics can be prioritized in the shortened school calendar upon return. Second, teachers will need to receive professional development that guides them on how to provide accelerated learning and how to adapt their pedagogy to teach at the right level, because students will arrive to classrooms after differential access to distance learning. Importantly, distance professional development using mobile phones, videoconferencing, or other digital means should be explored, taking account of the social distancing imposed by the response to the pandemic. Adopting these practices will help

systems not only tackle COVID-19 but build back with more resilience and effectiveness.

Behavioral change by teachers requires their buy-in. Technically impeccable lesson plans or teacher training will lead nowhere if lesson plans are not used in the classroom or if teachers do not change their behavior after training. Thus, governments should make sure that reading reforms build ownership with teachers by providing clear information on what is expected of them, appropriate support and accountability for meeting these expectations, and interventions to support schools that are struggling. Teachers can become allies if these changes facilitate their work and if they can observe an impact on improving children’s reading levels (Piper et al 2018).

COUNTRY EXAMPLES

Shanghai combines explicit curriculum standards, targeted classroom assessment, and clear guidance for teachers with school-based professional development. The city has curriculum standards that specify the knowledge and skills that students need to acquire every year. In early-grade reading, these objectives include both quantifiable indicators (recognizing 2,000 common Chinese characters and writing 1,000 common characters) as well as descriptions of competencies (understand textbook content; express opinion after reading passages) (Liang, Kidwai, and Zhang 2016). These curriculum standards serve important purposes in aligning

teachers’ daily work with stated objectives. Ninety percent of schools surveyed in a World Bank study reported they require teachers to design detailed lesson plans based on the stated curriculum standards.⁷ Shanghai uses teaching-research groups (which have been promoted since 1957 and are replicated at the school, city, district, and national levels) as a continuous professional development platform for teachers of the same subject. At the school level, groups meet for two to three hours every week, on average, and conduct activities such as coaching, new-teacher induction, research on content and pedagogical practices, and peer performance evaluations. A World Bank survey

⁷ The team of authors behind “How Shanghai Does it” collaborated with Shanghai Normal University to develop and administer a survey to 153 principals to understand education practices in relation to policy intent. These schools were junior secondary schools that participated in both the 2009 and 2012 PISA. As PISA adopts a random sampling strategy to select a representation sample of schools, the results from this 153-survey can also be said to be reflective of education policies in Shanghai.

showed that 99 percent of surveyed schools have teaching-research groups in different subjects (Liang, Kidwai, and Zhang, 2016). Finally, schools use formative assessments to monitor student progress, inform classroom teaching, and design teacher professional development and policymaking. Teachers in Shanghai are also instructed not to use paper-based tests for students in first and second grades and are given support on how to conduct formative assessments that focus on bolstering student growth rather than student comparison (Liang, Kidwai, and Zhang 2016).

Packages of structured lesson plans, as in Liberia, align teaching and learning materials, and professional development can be used by high- and low-income countries. In Liberia, structured lessons for teachers were combined with observation and feedback by literacy coaches as part of the EGRA Plus program. This was part of a general approach that carefully tracked student progress through both oral and written assessments. At the end of this program, reading scores had increased by 0.82 SD (Gove and Wetterberg 2011). On the other end of the spectrum, high-performing systems such as that in Finland also provide highly detailed lesson-plan models to students of pre-service education so that teachers can build their own and incorporate them into their teaching practices during their careers. In the early years of economic development, highly structured lesson plans were also a key element

in Shanghai's strategy to massify quality education. Over time, there was more freedom for teachers to adapt individual lessons. Even today however, teachers, professional development, curricula, and textbooks continue to align on a single set of standards and guidelines – a principle which remains core in driving success in basic learning outcomes.

India offers a good example of the importance of teachers' buy-in and support towards learning in its implementation of Teaching at the Right Level (TaRL). Between 2012 and 2013, the Haryana state in India embedded TaRL as part of teachers' regular activities in primary schools. Previous experiences had failed to gather teachers' support in Bihar and Uttarakhand, given that TaRL was not perceived as a government initiative. Learning from this, to get teachers to implement this approach, the Haryana government trained teachers in the methodology using their own officials (previously trained by Pratham) to train and monitor teachers and established a practice period for teachers to become comfortable with it. After that they included a government mandated additional hour in the school day to teach remedial Hindi to students by grouping them based on achievement and monitoring the program (Banerjee et al 2017).

WHAT WILL THE WORLD BANK DO DIFFERENTLY?

Teachers are at the center of the World Bank’s approach to eliminating learning poverty. In order to support teachers in the teaching of foundational skills, the World Bank will...

1

... support client countries to promote, practical, focused, high-quality professional development, with a focus on foundational skills. This includes a sharpened effort to re-orient teacher training for literacy around the foundational teaching skills and assisting clients to develop systems for coaching of teachers. The World Bank’s new initiative, called “Coach,” focuses on improving in-service teacher professional development, moving away from a traditional focus on inputs in the classroom to a focus on the quality of student-teacher interactions. In contexts like Afghanistan and the Democratic Republic of the Congo, principles and products from Coach are being applied to transform teacher professional development and coaching to effectively deliver foundational learning outcomes.

2

...partner with countries to strengthen instruction through improved teaching materials, in conjunction with teacher professional development. This includes efforts to improve lesson plans to better scaffold learning according to the science of reading and re-orienting other teaching materials to ensure lesson fidelity. For example, the World Bank is working with the government in Mozambique to revise early-grade-reading lesson plans so they more closely align with the reading trajectories of children while also embedding foundational teaching skill prompts for teachers.

3

...explore innovative avenues to deliver and sustain high quality teaching. The World Bank’s Education Technology team is expanding promising practices involving mixed-mode online teacher capacity development, particularly in the area of virtual coaching and remote teacher professional development, especially in the wake of COVID-19. In addition, using technology for just-in-time behavioral nudges through text messaging is also being explored.

Component 3

Provide quality, age-appropriate books and texts to children.

WHY IS THIS IMPORTANT AND WHAT WORKS?

Access to books predicts success in learning to read. It is self-evident that children need access to books and printed materials to learn to read. But differences in the amount and variety of print exposure correlate strongly with reading skills. “Print poverty” – namely the scarcity of exposure to written words – has huge consequences on performance. Students scoring in the 98th percentile of tests may read 4.7 million words a year, equivalent to 67 minutes a day, while those scoring in the 10th percentile may only read 51,000 words per year, equivalent to 1 minute a day (Anderson, Wilson, and Fielding 1988). To achieve fluency, students must be exposed to age- and content-appropriate texts and lots of practice reading (Gove and Cvelich 2011). Partner organizations such as UNESCO and USAID have all emphasized the importance of timely access to reading materials to improve learning (Education Commission 2016). Good texts can also be highly effective in supporting in-classroom teaching, and research has shown that quality textbooks are one of the most cost-

effective inputs to improve learning, especially if they are in a local language that children understand (Crabbe, Nyingi, and Abadzi 2014).

Home reading prepares children to benefit from reading instruction. While high-quality formal reading instruction in primary school is imperative, home reading activities are also essential. Children learn how print and books work, and time spent with caregivers listening to stories creates strong positive associations with books, reading, and language. A study from Uganda found that the factor that better explained learning outcomes in early literacy was having reading materials at home (Piper 2011). A comprehensive study that covered the Philippines, Uganda, Mali, and Ethiopia also found that the home learning environment was a predictor of literacy across all contexts, with the most critical component of home environment being access to print material (Friedlander 2013).⁸

In LMICs, high-quality, age-appropriate reading and teaching materials may be scarce or even

⁸The study found that up to 15% of the variance in student outcomes in the Philippines, Uganda, Mali, and Ethiopia was attributable to home environment factors.

absent. The Global Book Alliance, as well as other organizations, have raised awareness on both the extent and causes of the lack of book availability in LMICs. They found, in Malawi for example, that while the Tumbuka and Yao languages each have approximately 2.2 million native speakers, fewer than 20 book titles are available in either language (Results for Development 2016). As a result, a full quarter of Malawi’s population lacks materials to support literacy. Even when texts are present, they may be outdated, not contextually relevant or appropriate to the level of the child, in a language children do not use and understand, uninteresting, or unaligned with the requirements of effective pedagogy.

Many factors contribute to scarcity of reading material for children. The scope of the challenge includes a deficit in the pool of qualified authors and publishers, compounded by insufficient or inappropriate use of procurement and distribution systems, all of which increase the costs of production and provision. In Guinea, Niger, and Chad, more than 50 percent of books that are printed end up lost in the process of warehousing, transport, and distribution, due more generally to lack of oversight, accountability, and planning (Results for Development 2016).

Successful policies ensure that books are available, affordable, contextually relevant, and used by targeting all parts of the “book chain.”⁹

The book chain has been described as the result of complex systems and factors by which books and teaching and learning materials arrive to homes and classrooms. A high-quality, effective book chain involves:

- 1) *book/title development* – with attention to authorship, illustration, cultural relevance of book 4) *improved supply and distribution chains* to ensure that texts, once developed, are efficiently delivered from the content, and development of local publishing capacities;
- 2) *access/availability of age- and context-appropriate books*, including licensing arrangements that permit wider use, formats that allow for adaptation, and platforms that share existing titles;
- 3) *coordination of procurement systems* involved in the purchase of books and textbooks to improve efficiency from the production site to those who are the intended end users; and
- 4) *the effective use of texts* for reading instruction and practice both within and outside of the classroom.

When books and teaching learning materials are scarce or absent, analysis of what parts of the book chain function and what parts do not work is often the starting point for improvement.

⁹For more information on the Book Chain, refer to the work of the Global Book Alliance (GBA). The GBA has created various analytical tools to help countries strengthen their “book chains” to increase text access and use by young readers.

COUNTRY EXAMPLES

In Vietnam, every student, regardless of socioeconomic status, has a textbook.

Textbooks in Vietnam are developed by a collective of teachers and scientists who conduct an extensive research and development process with two to five years of piloting before nationwide expansion. Expansion strategies take into central consideration the equitable distribution of textbooks. In addition, government policies support subsidies and fee exemptions for children from ethnic minorities and poor families (Fredriksen and Tan 2008). A 2013 Young Lives report found that 97 percent of students in Vietnam own a Vietnamese textbook. Among the poorest subset of students¹⁰ in the poorest province of Vietnam, less than 1 percent own their own dictionary or calculator or use a computer outside of school, yet 100 percent reported owning a Vietnamese textbook, and 95 percent reported owning a math textbook (Rolleston, James, and Duc 2013). Vietnam has achieved high levels of enrolment in basic education in recent years and has undertaken important reforms intended to improve school access, quality, and equity. Results from PISA 2015 showed that students in Vietnam in the bottom half of the income quintile had scores as high or higher than the average OECD student (World Bank 2017).

In Rwanda, decentralized supply networks, with private sector participation, have improved the efficiency of book purchase and delivery. Over the past decade, Rwanda has

operated a system of school-based selection of teaching and learning materials. In 2009, the Ministry of Education launched a call for bids from publishers for all primary and secondary grades using international procurement systems adopted by the Rwanda Public Procurement Agency. The Ministry then utilized an evaluation methodology – with price accounting for 25 percent of the total evaluation mark – to create a list of approved titles from which schools could select. The final approved list with prices was widely distributed through newspapers, pamphlets sent to schools, and posted on the Ministry website. Three to four titles competed per subject and grade. Intensive publisher marketing to schools was generally beneficial as it provided information, inspection copies, and even workshops for teachers on how to apply the pedagogy of the textbook. Schools were required to spend 80 percent of their annual teaching and learning materials budgets on textbooks, with the remaining 20 percent spent on supplementary books. These budgets were not provided to schools in cash, but through two order forms that specified the budget amount that schools were allocated. Because the wholesale book trade market in Rwanda is still relatively weak, publishers were individually responsible for the delivery of their orders to schools. Publishers were not paid for their supplies until a signed and stamped delivery slip, which corresponded to the school order form, was submitted in support of their invoices. In the academic years 2010 to 2013,

¹⁰Poverty was determined through a Home Background Index, which uses indicators such as whether or not the child is of an ethnic minority, has a college-educated mother, a college-educated father, a computer at home, and/or internet at home.

the successful delivery rate¹¹ was 99.9 percent for supplementary materials and even exceeded 100 percent¹² for textbooks (Results for Development 2016). A high proportion of supplementary materials were primary grade reading books.

Niger, Nepal, India, and Cambodia are using “Track and Trace” to ensure books arrive to schools.

The World Bank’s Results in Education for All Children (REACH) Trust Fund has developed a digital tracking system to make sure books reach the hands of all children. This system addresses the main challenges regarding book distribution by providing easy to access information on the current status of books as they move along the supply chain. This information allows policymakers to identify problems and delays and address them swiftly. The “Track and Trace” system offers three main features: forecasting, tracking, and verification. Forecasting helps systems build an accurate projection on books requirements and replaces paper-based processes. Tracking allows real-time monitoring of printing, storage, and book distribution status. Verification allows for spot-checks to be deployed across classrooms to make sure orders have been completed correctly. Track and Trace includes easy-to-use tools: app, chat box, voice messaging system, and a dashboard. Between 2018 and 2020, REACH partnered with the Global Book Alliance to test and adapt these innovations in Niger, Nepal, India, and Cambodia (World Bank 2020). These iterations also mapped relevant actors as well the incentives necessary to make the program effective; among these, a common incentive used was public recognition and rewards. Results of the Cambodia project indicate that 99 percent of the books were allocated correctly, that the timeframe for

delivery of books was reduced from 10 days with the old system to 1 day with Track and Trace, and that 92 percent of committees in charge of spot-checking confirmed the reception of books. Finally, and most importantly, a cost-effectiveness analysis showed that the total cost of implementing this system nationwide is lower than the total cost of lost books.

Several countries are addressing print through interventions that target areas of weakness in local book chains.

Cambodia makes available guidance for story development for potential authors and illustrators. As a result, the number of available titles for early readers in Khmer has increased by an order of magnitude since the guidelines became available. Building on this trend in book development, a World Bank-financed Project in Niger currently sponsors local storytellers, authors, illustrators, and linguists to create and make accessible digital content for children. Room to Read, with support from the World Bank’s Results in Education for All Children (REACH) Trust Fund, is facilitating a public-private partnership to create national storybook guidelines and to develop a pooled procurement mechanism to distribute books to schools across South Africa. These types of initiatives have created standard guidelines and specifications for books, ensuring also that procurement processes achieve large and predictable print runs at low cost. Kenyan publishers publish reading books in a variety of different local languages, catering to larger ethnic groups, while the Kenya Institute for Curriculum Development supports the development of reading books in languages for which book development would not have been commercially viable (Results for Development 2016).

¹¹This is calculated by the number of textbooks ordered as a percentage of the number of textbooks successfully delivered.

¹²This can be explained by the fact that some expensive textbooks were not available at the time they were required, and cheaper substitutes were made available, therefore allowing schools to order more copies of the cheaper books.

WHAT WILL THE WORLD BANK DO DIFFERENTLY?

The World Bank will redouble efforts on three fronts to get more quality, age-appropriate reading materials into the hands of young readers. This entails...

1

...promoting the development of local educational publishing industries. Working with key partners, including the IFC, the World Bank will explore approaches to help support the strengthening of local educational publishing industries in target markets to broaden the availability of locally relevant reading materials. The World Bank will also work to help shape the supply of literacy materials for use in low-income educational settings by collaborating more closely with private and nonprofit educational publishers and providers of literacy. Prize competitions modelled along the lines of similar efforts supported by the Global Learning XPRIZE, USAID's All Children Reading Grand Challenge, and NORAD's EduApp4Syria initiative will be an important tool to help with such efforts.

2

...strengthening the procurement of books through greater accountability and the harnessing of new technologies and partnerships. The procurement of textbooks—both using national and World Bank rules – has acquired a largely deserved reputation for being a complex and lengthy process. Thus, the World Bank will scale up innovative approaches and seek to disrupt the status quo where procurement and distribution processes are not working. For instance, the World Bank will continue to foster the use of Results-Based Financing and “Track and Trace” technologies to drive improvements along the book supply chain, especially by promoting payment upon successfully verified delivery.

3

...supporting governments in developing clear criteria for approval and procurement of reading content so that that materials are affordable, appropriate, durable, contextually relevant and open-source. This includes an emphasis on the development of supplementary reading materials as a complement to textbooks and blending printed material with digital content (including open-source resources -OER). Drawing on lessons from REACH, World Bank staff will encourage the broader development, adaptation, and creation of a range of physical and digital content of supplementary fiction and non-fiction reading materials for consumption outside of class time. This could include innovations such as textbooks with WQRs or any digital technology that enables access to online digital resources, such as the technology developed by the EkStep Foundation in partnership with several states in India.

4

... and finally, the World Bank will work with other partners through existing organizations to develop high-quality, open-source, global public goods such as leveled readers in multiple languages and for different cultural contexts. Digital learning can also help facilitate localization and adaptation to multiple languages and replication at zero marginal cost compared to traditional publishing. Systemic responses from countries around the work regarding the COVID-19 pandemic can be leveraged to make the best use of the existing and newer online platforms, mobile applications, distribution of printed kits programs, to disseminate reading material more effectively and embedded within strategies where teachers, families, and students are incentivized and supported to use them.

Component 4

Teach children first in the language they speak and understand best.

WHY IS THIS IMPORTANT AND WHAT WORKS?

Children learn best in the language they speak and understand best. Evidence accumulated over the past several decades from all regions of the world paints a clear and consistent picture: students learn more when taught in the languages they speak, use, and understand best. Ensuring that instruction is comprehensible and connected to children’s existing knowledge promotes success. An analysis across 49 countries shows a strong relationship between literacy skills and the use of “mother tongue” or “L1” instruction. Students in early grades achieve higher reading comprehension when their teachers receive training and materials to teach in the language that students speak and understand best (Piper, Zuilkowski, and Ong’ele 2016). Research in Sub-Saharan Africa has also indicated that learning how to read in one’s mother tongue can help one acquire greater skill in a second language in later years (Shin et al. 2015; Taylor and von Fintel 2016). When children learn to read in their mother tongue and get practice decoding in a language they speak, they internalize the logic of decoding to learn their second language.

Students who receive home-language instruction are more likely to attend school, stay in school, and acquire higher levels of learning (see for example Trudell 2016; Smits, Huisman, and Kruijff 2008; Duc and Tam 2013).

Not only do students have greater success in school, but the effects of their success persist over a lifetime, with higher average earnings accruing to students who began their schooling in their home language (Patrinos and Velez 2009). Mother-tongue instruction has the very strong equity advantage of leveling the playing field and allowing all children to learn in the language they know and understand best. When the language that students speak and understand best is used as the first language of instruction, dropout rates are significantly lower (Smits, Huisman, and Kruijff 2008), particularly for girls (Benson 2005), and for minorities whose languages are not represented in formal structures (Pinnock 2009). At the same time, poor policies on language of instruction disproportionately affect children from households in the bottom 40 percent of the socioeconomic distribution. These children are more likely to be linguistic minorities, to fail to receive adequate instruction in the language they speak and understand best, and/or to lack the resources to mitigate the effects of bad language of instruction policies in the schools they attend. When in classes or schools with language-majority peers (students who speak the dominant, or “majority” language), these children must spend more effort to avoid falling behind. Many of them drop out of basic education and in the aggregate, their cognitive,

Box 2-2

The gender gap in reading

Across regions girls outperform boys in reading outcomes and have lower rates of learning poverty (see Learning Target Technical Note). Overall, middle-income countries present larger gender gaps in comparison to high- and low-income countries. For examples, eight out of the ten countries that lead the gender disparities in the TIMSS evaluation are from Middle East and North Africa region, and they all favor girls. However, it's important to note that while, on average, girls do better than boys in reading, fewer girls than boys are enrolled in school (especially in Sub-Saharan African countries). Additionally, girls have a higher risk of dropping out and are, later in life, underrepresented in the labor market.

Whether the gender gap in reading requires specific policies to help boys improve their reading proficiency is a disputed topic in academia. While some scholars consider that this gap seems to disappear by adulthood,^a others argue that the gap emanates from parents investing more time reading books with their daughters than their sons^b; or from teachers being biased to perceive boys as “troublesome” and girls as “compliant”^c.

Many of the World Bank’s education projects incorporate gender as cross-cutting. For example the “Education Reform Support Program-for-Results” program in Jordan is mainstreaming gender through activities such as teacher training on gender-specific modules, and tailoring student assessments to counter for potential differences in attainment and performance of girls and boys.

Sources: (a) Loveless 2001; (b) Baker and Milligan 2013; (c) Jones and Myhill 2004.

academic, and language skills are lower than those of their peers and lower than they would have been with adequate, formal mother-tongue instruction.

Teaching children in the language they speak and understand first benefits reading and other academic subjects. Using the mother tongue to instruct students for approximately the first six years of schooling is an important factor to achieve not only reading competency, but also to provide the foundation to study more complex topics. Data from TIMSS has shown that, with few exceptions, students from homes where the language of instruction is not the language spoken at home have lower average mathematics achievement than students whose mother tongue was also the language of instruction. Internationally, fourth graders who were not taught in their home language had average scores 28 points lower than fourth graders who were taught in their home language in TIMSS 2011 (477 versus 501).

Learning poverty correlates with language diversity at the national level. The 20 countries with the highest levels of learning poverty also have high language diversity. The relationship

between learning poverty and share of minority language speakers in the country is strong. Twelve of the top 20 countries by highest share of learning poverty are from the regions with the highest overall share of minority language speakers.

Investments in L1 education pay dividends for students and education systems. The technical work required to put in place good mother-tongue instruction in languages with more than 10 million speakers of speakers is not trivial; but it is modest compared to the improved educational outcomes for children who speak these languages. There are 273 languages that each have an average of more than 10 million speakers. Instruction in these additional 273 languages could eliminate 75 percent of the global problem (World Bank, forthcoming). To reach at least 80 percent of speakers in every LMIC, however, means teaching in 862 mother-tongue languages (World Bank, forthcoming). None of these additional languages has more than 1.5 million speakers in total; and many do not have orthographies. The remaining percentage of speakers use roughly 8,100 languages, with some of these languages

having only a few thousand speakers. When it comes to languages for which there are very few speakers, consideration of language coverage and costs may factor into choices. Focusing in on the 273 languages that have on average more than 10 million speakers, however, constitutes a clear and effective step in the direction of providing equitable education to all children.

Successful mother-tongue language policies require effective recruitment, training, and deployment of teachers. Language mapping exercises can be helpful to determine areas and schools where teachers and students suffer a mismatch in terms of language. Identifying schools or areas suffering from this issue can help to guide recruitment and deployment of teachers by targeting in-demand or least-served languages. In the short term, a variety of measures can be put in place to mitigate issues related to language mismatch, for instance, identifying teacher assistants from the local community and/or supporting classroom learning with technology.

Teachers need support to implement good language-of-instruction policies in the classroom. Both pre- and in-service training must be strengthened to incorporate specific pedagogies for local language teaching. In developing these programs, it is important to ensure alignment between the pre-service and in-service trainings and the teaching and

learning materials available to teachers to ensure successful implementation. Teachers should be trained to teach in the local language and be able to use the materials in a targeted way. Ecuador and Mali, for example, have introduced targeted training programs on bilingual education (Maurer 2010). National and local educational planning and budgeting are needed to effectively incorporate home languages into the overall functioning of the education system (USAID 2015).

Language of instruction policies should reach all students and all needs. Current evidence shows that many of the out-of-school children at the primary level have some form of disability (UNESCO 2006) (see Box 2-4). In developing countries, a disaggregation of the disabled out of school rate reveals that more than 85% of disabled primary-age children have never attended school (UNICEF 2014). Estimates based on 19 LMICs also show that compared with their peers, children with disabilities are 13 percentage points more likely to never be enrolled in school, 15-18 percentage points less likely to finish primary school, and about 16 percentage points less likely to be literate (Wodon et al. 2017). These statistics show us that an inclusiveness lens must be at the core of new educational policies.

COUNTRY EXAMPLES

Ethiopia created an enabling ecosystem that allows mother tongue language policy to thrive. Ethiopia is ethnically and linguistically diverse, with over 80 officially recognized languages and over 200 dialects (Gebre 2010). In 1994, the Ethiopian Educational and Training Policy was passed. It explicitly acknowledged that mother-tongue education has pedagogical advantages for children's learning. The policy made primary

education in 'nationality languages' compulsory, followed by transition to English as a medium of instruction in secondary and higher education. As of 2015, 30 language were being used as a medium of instruction for part or all of the primary grades, and about 51 languages were being offered as subjects nationwide (Derash 2013). In all regions of the country, English is introduced as a subject in

grade 1, while Amharic is introduced as a third language, taught as a language of countrywide communication, often starting in grade 3 or 5. The country has made significant strides in training teachers to provide effective instruction in these languages. Pre-service teacher training programs for lower-primary teachers in many of these languages are gradually being introduced in colleges of teacher education; in-service teacher training programs have been expanded to upgrade the qualification of unqualified teachers; and teachers are recruited locally by *woredas* (districts) to ensure linguistic familiarity and contextual understanding of mother-tongue issues (Bashir et al. 2019). Despite challenges, the policy is yielding promising results. Evidence suggests that mother-tongue instruction is having positive impacts on years of schooling (Ramachandran 2012) as well as learning outcomes in the country (Gove et al. 2017). However, remaining challenges include significant variations across languages in the level of development and suitability to meet the demands of the primary curriculum. Additionally, regions that boast smaller language groups experience high costs in providing textbooks and other teaching and learning materials. For many of these languages, reading materials (outside of textbooks) remain scarce (World Bank, forthcoming).

Peru integrated indigenous languages in bilingual intercultural education policies with Spanish as a second language. Some historical factors facilitated this policy, such as the recognition of Quechua (the most common indigenous language in Peru) as the official national language in 1975 and the creation of a national Directorate of Bilingual Education

within the Ministry of Education in 1988. The current bilingual and intercultural education policy specifies that the shift from mother tongue to Spanish should depend on the child's proficiency in Spanish. For example, children who enter school as monolingual in an indigenous language use their mother tongue as the language of instruction and study Spanish as a second language during Grades 1 and 2. In Grade 3, Spanish is introduced as language of instruction for 20 percent of class time, and this share increases by 10 percentage points each year, reaching 50 percent by Grade 6 (Hynsjö & Damon 2015). From 1996 to 2000, 94 bilingual teaching manuals were produced and distributed alongside other various teaching and learning resources (Hynsjö & Damon 2015). Beginning in 2004, the Rural Education and Teacher Development Project, funded by the World Bank, developed student workbooks in 10 native languages and five varieties of Quechua for all primary grades, corresponding teacher's guides, play kits in both Spanish and native languages, as well as an outreach package for teachers to use to introduce parents and community members to the advantages of bilingual instruction (World Bank 2002). During the COVID-19 pandemic, *Aprendo en Casa* offered online resources for children in 9 languages¹³ and a network of 35 radio stations broadcast educational programming in local languages (Andina 2019). Yet, a number of factors hinder the implementation of mother-tongue education in the country, including the lack of qualified teachers to teach in some indigenous language communities, as well as the perceived social status and economic benefits of learning in Spanish instead of in a local language (Bühmann and Trudell 2008).

¹³ See more at <https://aprendoencasa.pe/>

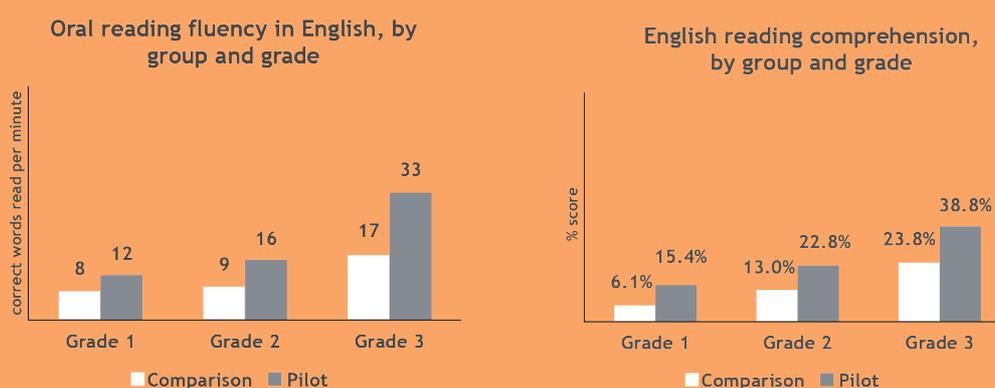
Box 2-3

The Gambia: Results for Education Achievement and Development Project (READ)

The Early Literacy in National Language (ELINL) program started in the Gambia in 2011. The program pilot taught children in Grades 1 to 3 in 108 schools in the Gambia to read in their mother tongue (either Jola, Sarahule, Pulaar, Mandinka, or Wolof) and provided the foundations for learning to read in English. The focus was on developing phonemic awareness among children, with the goal for children to be able to read with comprehension in their home language by grade.

In 2014, an evaluation of the ELINL program found that children under the program read with a higher fluency in English in Grades 1-3 compared to the children in other programs that did not include local language instruction. The difference was especially notable by the time they reached Grade 3 (see Figure 2-2 below). A similar pattern was observed in reading comprehension, where children in the ELINL programs achieved higher reading comprehension scores in all grades. There were also fewer children who had a zero score on comprehension in the ELINL group.

Figure 2-2. Reading scores, oral and comprehension, ELINL program participants vs. control group, grades 1, 2, and 3.



Source: Hsieh, 2014

Based on these positive results, the Government of the Gambia decided to scale up the ELINL program to the entire country (including two additional local languages: Manjaku and Seereer), through the launch of the Gambia Read Program. Supported by the World Bank since 2014, the scaled-up program has implemented one hour of national/local Language and one hour of English reading every day for every student in public schools up to Grade 3.

Key features of the Gambia Read program:

- Children learn to read in two languages - their local language and English; The idea is to gain reading skills in their local language first before moving to a less familiar language, English.
- Teachers are trained with model/scripted lessons.
- Teachers are supported by trainers throughout the school year and trainers periodically act as observers in the classroom and provide feedback to the teachers and one-on-one coaching.
- Levelled readers have been developed in 7 local languages and English and have been distributed to all schools.
- Teachers undertake regular assessment of pupil progress in reading. Teachers are trained on how to properly use EGRA-like instruments to assess pupil performance on letter knowledge, reading, and comprehension at three points during the year. Teachers are supposed to track a pupil's performance from one assessment to another, producing individual pupil report cards. Additionally, teachers work with their principals to develop school report cards that can be discussed with their school's Parent-Teacher Association (PTA).

Source: World Bank 2019

WHAT WILL THE WORLD BANK DO DIFFERENTLY?

To support the teaching of children in their mother tongue, the World Bank will step up its support to clients by ...

1

... **disseminating evidence regarding the advantages of instruction in language of instruction.** Fighting learning poverty requires spending the limited fiscal resources oriented towards education effectively. Increasing effectiveness of spending partly comes through teaching in a way—and in a language—that yields learning.

2

... **helping countries to map resources to the national language landscape and proactively engage clients to take a long-term approach to both planning and achieving language goals.** This begins with gathering information on the national language landscape and analyzing these data alongside proficiency levels of students and teachers and availability of teaching and learning materials. The World Bank will help clients actively incorporate this baseline into target setting and medium- and long-term sector planning.

3

... **planning for increased technology use.** Rapidly evolving educational technologies can simplify the daunting work of bringing millions of students to adequate levels of language proficiency. The World Bank is exploring the use of effective data mining tools for monitoring and assessment of language proficiency to inform policy formulation and implementation and continues to actively explore how technology can be a growing part of language-of-instruction solutions.

Box 2-4

The Literacy Policy Package will aim to reach all learners - including those with disabilities

Building on the objective of SDG 4 (“ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”), the World Bank has committed to make all its financed projects in education disability inclusive by 2025, and it is already mainstreaming inclusive education into operations. A first set of actions to reach learners with disabilities include the following.

Quantify: Make disabilities visible by producing and/or gathering disaggregated data on the number of children with disabilities in school and their progress in learning. Children with disabilities in LMICs remain invisible due to the lack of representative national and regional data. Supporting countries to obtain representative data on students with disabilities should be prioritized, for example by helping national governments develop protocols for education personnel to recognize students’ special needs or disabilities in classroom/at schools. Broader indicators on inclusive education system development, such as the number of trained teachers and school leaders, and accessible school buildings, should also be tracked.

Identify: Carry out research to find the most cost-effective interventions that can be scalable to support students with disabilities in LMICs. Interventions targeted toward children with disabilities have mostly been carried out within a small population and in high-income countries. More and better research is needed on how to promote actionable inclusive learning in countries with low resources and limited teacher training.

Include: Build inclusive education systems to ensure, when feasible, that children with disabilities access education, can participate and learn among other children. When children with disabilities have been mainstreamed in regular classrooms (with peers without learning disabilities) they have presented better academic and social outcomes than children that are grouped only with students with disabilities. Building an inclusive education system is a process, and national governments need support in conceptualizing and operationalizing inclusive education in their unique country contexts. Pre- and in-service teacher training, leadership development, curriculum, assessment and learning support, among others, will need to be part of these efforts. Meanwhile, countries can start through small actionable adaptations which can facilitate learning for children with specific learning disabilities such as dyslexia. For example, highlighting texts when reading, or using a ruler with a student with dyslexia, can be supported. Blind students need books in accessible format using Braille, and students with low vision can be supported with bigger fonts. Learning to read with the support of signs will support deaf learners.

Sources: UNESCO 2017; Alasuutari et al. 2020; Alquraini and Gut 2012.

Component 5

Foster children’s language abilities and promote the love of books and reading.

Photo: © Dana Smilitie/World Bank

WHY IS THIS IMPORTANT AND WHAT WORKS?

Oral language is the foundation of learning to read and write. At the beginning of a child’s education, reading builds on oral language skills. Language comprehension is a fundamental component of reading comprehension, and oral language ability strongly predicts reading ability. In addition, exposure to and facility with oral language can sensitize children to sounds and help children recognize, discriminate, and manipulate distinct sounds—also known as phonological awareness. For young children, phonological

awareness can mean being able to pick out rhyming words, noticing the number of syllables in a word, or observing when two words have the same beginning or ending sounds.

Children’s oral language abilities are first developed at home. Literature has demonstrated that the amount of speech directed from the mother or caregiver to the child is a strong predictor of the child’s later linguistic competencies (see for example

Box 2-5

Read @ Home - getting books to children from hard to reach homes during the COVID-19 pandemic

The current COVID-19 pandemic has caused the largest school closures in recent history. Some form of remote learning strategy has been rolled out by around 80% of countries, yet there are families that are unlikely to be reached (e.g. with illiterate parents, living in areas with low connectivity, no access to smartphones or computers).

Read@Home is a key intervention designed to get books and learning materials to kids, thereby introducing new vocabulary, facilitating dialogue between children and adults, and helping to promote enthusiasm for reading. It is not solely a crisis response; it can continue after the pandemic, and help systems be more resilient to future shocks. Even before this crisis, in Sub-Saharan Africa only 3% of households had more than two children’s books at home, and around the world just half of all parents report regularly engaging in cognitively stimulating activities with young children.

This initiative is distributing reading, learning and play material on a massive scale in the mother tongue, where possible and appropriate. The content is aligned to the curricula of the countries where it is implemented, and it is designed to engage teachers as well as parents. Finally, the program is adaptable to fit country-specific needs and opportunities.

Learn more in: <https://www.worldbank.org/en/topic/education/brief/read-at-home>

Barnes et al 1983; Hart and Risley 1995; Hoff and Naigles 2002) and greatly impacts their learning outcomes later in life (Zauche et al 2016). Evidence suggests that child-directed speech is more effective in promoting linguistic development than overheard speech (Shneidman et al. 2013; Weisleder and Fernald 2013), especially when spoken in one-on-one conversations (Ramírez-Esparaza 2017), by adult caretakers or household members (Shneidman 2013). Young children and infants also have shown auditory preferences and are more likely to listen to speech that is simpler, spoken in a higher-pitch register, and with accentuated vowels sounds (Fernald 1985). Experimental evidence has also shown that it is possible for infants as young as 18 months to learn new vocabulary through what they overhear from familiar voices in the sound environment, provided it is not overly complex (Floor and Akhtar 2010). This is particularly relevant in communities where children are rarely directly addressed by caregivers and receive most of their early auditory input from overheard speech. Studies from preindustrial societies, such as the one conducted among the Yucatec Mayans in Mexico, suggest that while child-directed speech remains a positive determinant of subsequent linguistic development, children living in cultures where observational learning is more prevalent may be more likely to learn from overheard speech (Schneidman and Goldin-Meadow, 2012).

Daily reading by caregivers has positive direct impact on children’s later language and literacy skills (see for example Hargrave & Sénéchal, 2000; Raikes, et al, 2006; Knauer and others 2019; Manu and others, 2019). Knowledge about print is built from children's experiences with books and other written materials. For children living in LMICs, having at least one children’s book at home has been found to almost double the likelihood of the child being on track for literacy and numeracy, controlling for other factors such as maternal education, wealth index quintile, and age (Manu et al.

2019). When any children’s book is available at home, it is likely to promote caregiver-child interactions that may be stimulating and promote the development of emergent literacy and numeracy skills (Sanders et al. 2000; Manu et al. 2019). Importantly, having a book at home and establishing an interest in reading from the early years can yield positive associations with the act of reading that pave the way for reading for pleasure later as the child learns to read independently.

Differences in early language environments can promote inequities in learning and abilities. As evidence points to the early onset and long trajectory of literacy development, it also points to great inequity that can arise between children who have exposure to a rich print and oral environment in early childhood and children who do not. A landmark study conducted in the United States found that children in the lowest socioeconomic group heard approximately one-third the amount of words heard by children in the highest socioeconomic group heard over the same duration (Hart and Risley 1995). The same study showed that both language skills and vocabulary use at age 3 were highly predictive of language skills, vocabulary use, and reading comprehension at ages 9-10. Other studies have also shown that kindergarten language scores (which largely reflect the level of language exposure of children prior to schooling), are the single best predictor of school achievement in all subjects at grades 3 and 5 (Golinkoff 2019; Durham 2007; Pace et al. 2019). Conversely, longitudinal evidence has shown that children who fall behind in oral language and literacy development in the years before formal schooling are less likely to be successful beginning readers; and their achievement lag is likely to persist throughout the primary grades and beyond (Hart and Risley 1995; Farkas and Beron 2004; Cunha and others 2006). Consequently, catching up is hard, and for children who are exposed to less vocabulary and to poorer-quality vocabulary,

this “word gap” tends to persist far beyond early childhood.

Dialogic reading helps children learn about the world. When caregivers read and ask questions (using “dialogic” reading techniques) they can foster early literacy development by building background knowledge about the world and concepts about books and print. The past several decades have shown the links between the frequency of caregiver-child shared book reading and language and literacy skills (Dickinson and Smith, 1994; Stevenson and Fredman, 1990). Moreover, evidence suggests that the *way in which young children are read to* is related to the language gains they acquire from the shared reading experience (Arnold, Lonigan, Whitehurst, and Epstein, 1994; Whitehurst and others 1988). Specifically, children gain the most when they are

encouraged to become active participants in the reading experience—when they are prompted to explain a picture in a storybook or encouraged to become the storyteller alongside the adult. Dialogic reading is the practice of reading with a child where the child is encouraged to become the teller of the story over time. The role of the caretaker or adult in dialogic reading is not to tell the story to the child, but rather to prompt the child with questions and to extend the child’s language by encouraging the child to say a little more than he or she would normally do (Whitehurst and other 1988; see Box 2-7 for more examples of dialogic reading techniques). Since the aim of dialogic reading is to stimulate a dialogue and not necessarily read the text in its entirety, these programs have been shown to be effective even in low-literacy populations.¹⁴

Box 2-6

Dialogic reading techniques

Examples of dialogic reading techniques for 2- to 3-year olds:

- *Ask “what” questions:* Ask children to name objects in the book; asking simple questions about the story (e.g. “What did the girl do next?”)
- *Repeat what the child says:* Repetition helps reinforce the child’s verbalization and lets them know that they were correct (e.g., “Yes, she read a book.”)
- *Follow answers with more questions:* Ask related, follow-up questions to the child’s answer (e.g., “Yes, she read a book. What color is the book?”)
- *Help the child as needed:* A child’s inability to answer a question is a good teaching opportunity. If a child is unable to answer a question, answer the question for the child and have the child repeat what was said (e.g., “That color is blue. Can you say ‘blue?’”)
- *Attention-following:* If a child is showing interest in a particular page or set of pictures, be flexible about following their interest and engage them in it further before moving on.

Examples of dialogic reading techniques for 4- to 5-year olds:

- *Ask open-ended questions:* Examples of open-ended prompts include, “What do you see on the page?” and “What do you think he felt when this happened?”
- *Expand what the child says:* When a child answers, the adult repeats what the child says and adds a few more words to the verbalization. Then, ask the child to repeat what was said. For example, “Yes, that’s a dog. It’s a big dog. Can you say, ‘big dog?’”.

Source: adapted from Whitehurst, 1988

¹⁴ See Knauer and others 2019 study on parent-child book-sharing among illiterate caregiver populations in Kenya.

The impact of dialogic reading is well-documented for many languages. Children in a 7-week dialogic reading program in Mexico were on average 73 language months ahead of children who did not receive the intervention (Valdez-Menchaca and Whitehurst 1992), and obtained higher scores on measures of linguistic complexity than children in the control group. A similar, 8-week dialogic reading intervention in the United States showed gains in expressive vocabulary and oral narrative skills for children (Lever and Sénéchal 2011). In Bangladesh, average vocabulary scores of children doubled after a 4-week dialogic reading intervention, while children in the control group experienced no increases (Opel, Ameer and Aboud, 2009). Enhancements in vocabulary, morphological awareness, and reading interest were also seen in a 12-week dialogic reading intervention in China (Chow et al. 2008). An 8-week dialogic reading intervention for mothers of infants ages 14 to 16 months in South Africa yielded considerable benefits to child language and attentional ability (Vally et al. 2015). Dialogic reading interventions have yielded similarly positive results in countries such as Egypt (Elmonayer, 2013) and Turkey (Simsek and Erdogan 2015). Shared and dialogic book reading is a specific example of a broader practice known as “episodes of joint attention” or “sustained shared thinking,” whereby caregivers and the child direct their coordinated attention to an object or event. These occurrences help the child to determine the adult’s attentional focus and associate with

it the intended language referent, helping support early communication and facilitate early language development (Bakeman and Adamson 1984; Tomasello and Farrar 1986). Within episodes of joint attention, an “attention-following” strategy, where the caregiver builds on the child’s current interest and attention (also discussed in dialogic reading), supports language development much more effectively than an “attention-shifting” strategy, where the caregiver switches the child’s attention to their own focus of interest (Whitebread and Sitabkhan, in World Bank, forthcoming). A longitudinal study of 3,000 students across the United Kingdom found that one of the key factors leading to effective ECE provision was the occurrence of episodes of what was termed “sustained shared thinking” between adults and children (Sylva et al. 2004).

Early Childhood Education (ECE) should provide the foundations of pre-literacy skills while avoiding formal reading instruction. The growing influence of, and attention to, early childhood curricula could lead to a standards-based architecture that compromises children’s creativity, autonomy, and discovery (Zigler, Singer, and Bishop-Josef 2004). A “pushed down” literacy curriculum that neglects the relational and conversational elements of early literacy and favors, for example, the formal teaching of decoding, threatens developmentally appropriate teaching in ECE.

Box 2-7

How to foster children’s motivation to read

To develop reading skills, children need to learn to decode words easily and develop reading comprehension, as detailed in previous sections. Yet, there’s a third element that needs to be secured in order to develop lifelong readers: **motivation**. Evidence shows that there are some principles that parents and teachers can follow to foster the love of reading.¹⁵

Developing reading skills needs to start at home and as early as possible. Most parents don’t notice their child’s lack of motivation until puberty or even after. But it’s never too late to start; older

¹⁵ D.T. Willingham, *Raising Kids Who Read: What Parents and Teachers Can Do* (San Francisco: Jossey Bass, 2015).

children can learn to enjoy reading as well. Leisure readers grow up to get better jobs and earn higher incomes.

Make reading fun, change attitudes towards reading. Books offer the possibility of “living” different lives and adventures, as well as developing socio-emotional skills. As Diane Ackerman reflects, books are “borrowed minds” and they explore and celebrate what it truly means to be human.¹⁶ Reading academic texts is important, but for children to value reading it is also important to read for pleasure, whether the means reading about football, race cars, vampires, dinosaurs, or wizards. Reading should not feel like a chore. Through books children can learn to appreciate different experiences and grow up as more empathic individuals. Additionally, kids who enjoy reading tend to perform better in literacy tests.

Develop a sense of oneself as a reader. Having a positive attitude toward reading is not enough; students need to feel that being a reader is an important part of themselves as individuals. In the words of Italo Calvino, “who is each one of us, if not a combination of experiences, information, books we have read ... each life is an encyclopedia, a library.”¹⁷

Motivation can be developed through different strategies at home. These may include linking reading with other pleasurable activities, such as family traditions (for example, gifting a book on every birthday, reading newspapers or magazines together and discussing, making trips to the library together) and making comforting spaces such as reading corners. Additionally, signaling that reading is valued and enjoyable for your family will contribute to the child’s identity as a reader. Finally, limiting screen time (smartphones, tablets, and laptops) can also contribute to make reading the most attractive choice for the child.

Motivation can be developed at the classrooms. Teachers are key to developing readers. By sharing their enthusiasm for reading, mentioning anecdotes, relating books to the local context, or describing how a book affected their lives, they can become a model for children to continue developing their reading skills. Teacher training and coaching programs also need to include strategies to build connection between teachers and students and behavioral strategies to keep students engaged. Additionally, reading should be given a prominent space in classrooms, by including playful materials and books that children can reach to at any point of the school day.

Older children can also develop motivation to become lifelong readers. Highlighting the difference between academic reading and pleasure reading and allowing students to reach for the books they are most attracted to can be a good start. Students may have associated reading with history, biology, or languages in such a way that it has a negative association as a “boring” activity. Group reading programs at schools can be successful as well, as long as children can independently choose the books they want to read (this requires a classroom or school library), and teachers can actively create an environment of community through book discussions that allow students to share their views with peers.



Figure 2-3: The Reading Virtuous Cycle (adapted from Willingham, 2015)

¹⁶ Diane Ackerman, “Letter to a young reader,” included in Popova 2018.

¹⁷ I. Calvino, *Six Memos for the Next Millennium* (Cambridge, Mass: Harvard University Press, 1988).

COUNTRY EXAMPLES

A World Bank project in Uzbekistan improved pre-literacy in pre-primary education. It included early literacy promotion activities targeting families with children ages 3 to 6 and an outreach campaign to parents to raise awareness about the importance of early stimulation, play, and positive interactions. The project financed the nationwide distribution of storybooks to children not enrolled in ECE and living in rural areas. Pre-primary teachers were also engaged to lead weekly, regular story-time hours for these children. The project aimed to distribute a set of storybooks per child per family. At closing, the project established almost 2,000 small libraries in project ECE centers and benefitted over half a million students ages 3-6 with at-home early reading activities.

The Pacific Early Age Readiness & Learning (PEARL) World Bank Project supported Pacific Island countries in bridging the gap between school readiness and early literacy. In 2014, low-cost interventions to improve early literacy were implemented in the Pacific Islands. These included (1) playgroups for children ages 0 to 5 and their parents run in Tonga and Tuvalu; (2) early grade reading interventions to provide teachers of grades 1 and 2 with coaching and technical training on how to unlock their students' reading skills in Tonga, Kiribati, and Tuvalu; and (3) capacity building initiatives to design, implement, and evaluate interventions. From 2014 until 2019, the program has shown positive results. The community-led playgroups in Tonga have increased pre-literacy and pre-numeracy skills by 24 percent of what a child normally gains in one year of age, with girls increasing their skills by 26 percent. The early grade reading interventions increased the percentage of grade 2 students able to read with comprehension (achieving a fluency of 50

words per minute) from 18 percent to 29 percent. In Tuvalu, year 1 students after benefiting from two years of reading interventions scored 67-70 percent on reading tests, in comparison to students who didn't benefit from the program, who scored 12 percent. Finally, in Kiribati, grade 1 students after one year of PEARL could identify 42 letter sounds per minute in comparison with their average of 22 letter sounds before the program.

In Kenya, the Enhancing Young Children's Language Acquisition through Parent-Child Book-Sharing program developed culturally and linguistically appropriate books adapted for a low-literacy rural population. The program selected locally sourced English and Swahili storybooks from the existing marketplace as well as adapted stories from the African Storybook Project and translated these materials into the local Luo language. After distributing books to families, the program solicited feedback for these books and worked to elaborate the text of the most favored storybooks to add sections where parents can connect the story to children's daily experiences. The second component involved the design and training of a three-hour group dialogic reading session for caregivers. Results from the randomized control trial showed that caregivers who participated in the dialogic reading training improved reading frequency and increased the quality of caregiver-child reading interactions. Children were also measured to have improved their book-specific expressive vocabulary. Children of illiterate caregivers benefited at least as much as children of literate caregivers and exhibited larger impacts in the likelihood of being read to.¹⁸

¹⁸ Knauer and others 2019

WHAT WILL THE WORLD BANK DO DIFFERENTLY?

The World Bank will step up its support to countries in the development of quality early childhood interventions that support pre-literacy and oral language development by ...

1

... supporting countries to **prioritize oral language and communication within their ECE curricula**, and more generally to ensure that developmentally appropriate pedagogy and curricula are applied in ECE classrooms. This will entail redoubling efforts to advise governments against the push-down of primary grade curricula before it is developmentally appropriate; and to remove those incentives, such as over-emphasis on assessment, that may cause this to occur.

2

... developing resources and strategies to parents and caregivers to **provide language-rich and stimulating home literacy environments for children, which can foster extra practice and support outside of school**. The World Bank – through its current Read@Home initiative – is working to rapidly distribute developmentally appropriate and culturally relevant books to homes. These books also include some suggestions of how caregivers can engage the child in the book through dialogic reading practices.

3

... support Ministries of Education to **utilize existing health or social protection systems to provide wraparound support to young children's language and literacy development**. This implies exploring ways to utilize channels and partnerships with other sectors, such as collaborating with health or social protection services to provide books and materials to children when they attend routine medical checkups and/or at cash-transfer collection sites.

Box 2-8

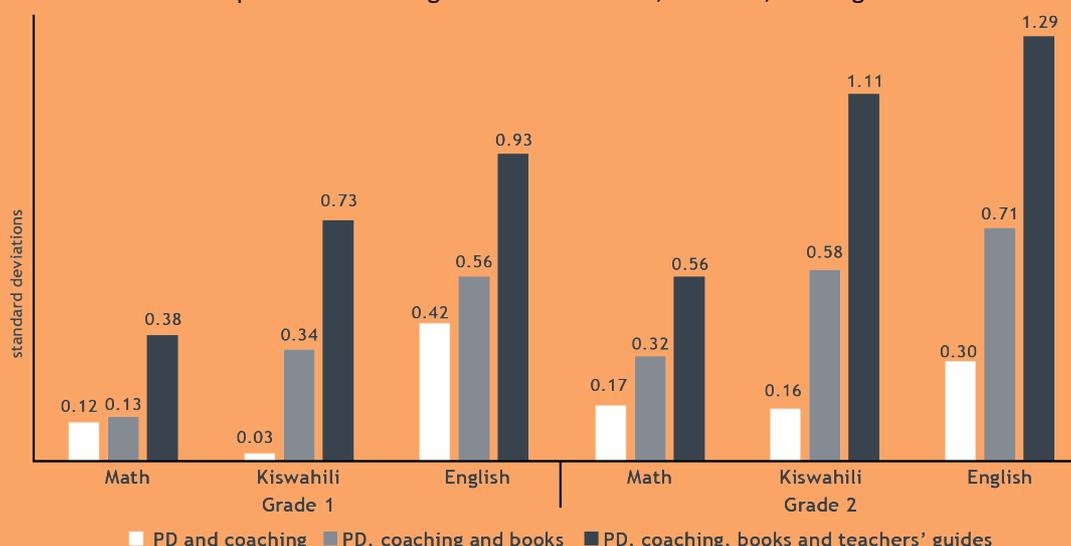
More components equals likelihood of greater success: Tusome Early Grade Reading Program use 4 of the 5 LPP components.

The Tusome Early Grade Reading Activity in Kenya, implemented by RTI, is set to dramatically improve primary literacy outcomes for approximately 7.6 million Kenyan children in grades 1-3.

Two characteristics make this program unique. First, the program will be rolled out at the national level with the support of the Kenyan government, which established ambitious goals to improve reading proficiency for all children. Second, the program is based on a pilot, the Primary Mathematics and Reading (PRIMR) initiative (2011-14), in which the government tested and costed three different strategies for improving reading outcomes to identify the best option. The PRIMR model required training and classroom support be done by existing government officials, which highlights that the pilot was designed thinking about the real obstacles and limitations that reading programs face when they are implemented nationwide. PRIMR tested the following strategies:

- **Strategy 1:** Teacher professional development and instructional support (coaching) at a cost of \$5.63 per pupil;
- **Strategy 2:** Same elements of Strategy 1 plus revised student books in literacy and numeracy at a 1:1 ratio at an additional cost of \$2.38 per student; and
- **Strategy 3:** Same elements as Strategy 2 plus structured teacher lessons at an additional cost of \$0.16 per pupil.

Figure 2-4. The Comprehensive Approach of the Tusome Early Grade Reading Program: A comparison of learning outcomes for Math, Kiswahili, and English



Source: Piper et al. 2018

As can be seen in Figure 2-4, training and instructional support alone did not improve learning outcomes. A combination of training, coaching, and student books had small to medium effects. Strategy 3—including teachers' guides (with structured teaching lessons)—was by far the most cost-effective intervention. The third strategy was chosen by the government and Tusome was scaled up by the Ministry of Education (implementation partner RTI) to 23,000 public primary schools and 1,500 low-cost private schools. In 2017, an independent external evaluation found that the program was widely implemented and that the percent of students nationally meeting the government's literacy benchmarks nearly doubled.

Lessons for implementation and management capacity

According to Piper et al (2018), system-level change requires getting decentralized schools and teachers to adopt new behaviors, and requires a Ministry of Education with institutional capacity for three key functions:

- 1) Setting and communicating expectations for education outcomes;
- 2) Monitoring and holding schools accountable for meeting expectations; and
- 3) Intervening to support students and schools when needed.

A recent case study of the program finds that the successful transition of Tusome's management and implementation to the government can be attributed to:

- 1) a phased or gradual transitioning of the NGO-led program to the government; the NGO funded and carried out all activities at the beginning, then the government funded, printed and distributed books, and soon the government will take over professional development, coaching and instructional materials;
- 2) strategically planning for regional inequities and vulnerable populations by, for instance, adapting learning materials to meet the need of students and teachers with hearing impairments and incorporating gender-sensitive pedagogy;
- 3) institutionalizing the core program elements within existing systems, such as including pedagogy in pre-service teachers' training;
- 4) engaging key stakeholders at a national, county, and community element so that each actor knew what students should learn and what their role in the process was; and
- 5) capacity strengthening across the system. For instance, the program supported the use of ICT to make evidence-based decision-making using real-time data on student performance and teacher monitoring.

Source: Piper et al., 2018 and University of Nairobi and Makerere University, 2019.

A photograph of four school children in a hallway, overlaid with a teal tint. The children are standing in a line, looking towards the camera. The child in the center is holding a book and has a backpack on. The child on the far right is making a peace sign. The hallway has a doorway in the background.

Section 3

HOW CAN NEW EDUCATION TECHNOLOGY LEAPFROG PROGRESS TOWARDS UNIVERSAL LITERACY?

Literacy has always been closely linked with the use of new technologies. From the development of the book and of movable type centuries ago, to the use of portable devices (mobile phones, laptops, tablets, etc.) to provide opportunities to develop and refine reading skills anytime, anywhere, technology continues to offer new opportunities to expand access to cheaper and more varied reading materials. Technology today is impacting some of the ways children learn to read and their reading habits, changing the roles of teachers,

students, and principals, and providing more new methods to assess the progress of individual learners to help target resources and materials to promote literacy development (see Figure 3-1).

Technology is central to the conversation on accelerating progress in literacy. To reach the Global Learning Target, countries will need to disrupt existing models of reading content development and delivery through the effective use of technology.

EXAMPLES OF DIGITAL TECHNOLOGY AND SOFTWARE FOR LITERACY PROGRESS

Following are just some of the many ways today's technology could be used to fast-track progress in reading.

Digital texts, readers and didactic materials. Digital learning materials can be accessed using a variety of devices. The unique qualities of digital content allow zero-marginal-cost replication and the bundling of data to measure and assess both use and reading progress. For example:

-The Worldreader NGO in Ghana, Kenya, and India has demonstrated that it is possible, and cost-effective, to make available digital reading content on phones and other mobile devices in ways that are both accessible to young readers and cost-effective at scale.

Furthermore, electronic materials can be created to include support for students with learning disabilities, including larger texts, audio, and word-tracking features.

Apps and other software applications to teach students to read. Literacy apps and literacy games for early readers have proliferated and

are often available in indigenous and local languages.

Education software for reading teachers. When supported by artificial intelligence (AI) and machine learning tools, education software can apply algorithms to data to facilitate delivery of appropriate content to teachers. This can aid teacher in teaching to the right level, through the provision of personalized/adaptive content. For example:

-Mindspark centers in India use an adaptive learning software that customizes content based on the level and rate of progress of each student. When students attended these centers after school for a period of 4.5 months, they experienced an increase in math test scores of 0.37 SD and in Hindi scores of 0.23 SD (Muralidharan, Singh, and Ganimian 2019).

Gaming software for independent learning. Through use of game mechanics, software can increase children's engagement and interest in reading, and it can support the collection of data to further refine the delivery of appropriate content. Digital content also

provides opportunities for students to learn outside of a formal school setting and transform learning in situations where there are no trained teachers or schools. While no substitute for human interaction, competitions like the [Xprize for Global Learning](#) and Norad's [EduApp4Syria](#) have demonstrated that it is possible to develop effective literacy programs using technology in some of the most challenging educational contexts in Africa and the Middle East. For example:

-The Xprize challenge yielded strong results in rural Tanzania. The Xprize challenged teams to develop open-source, scalable software to empower children to teach themselves basic reading, writing, and arithmetic using a tablet. The software was tested in rural Tanzania: after 15 months of exposure, children increased their correct syllable sounds per minute by 0.59 SD, correct familiar words per minute by 0.55 SD, and correct invented words per minute by 0.51 SD. Furthermore, the percentage of students that were able to read at least one complete sentence increased by 20 percent.

Computer and mobile-based assessment. Digital technologies offer unique opportunities to collect data linked to particular learning content, which can be used to more effectively assess and monitor student competencies, including those particular to reading.

Open digital education platforms and information systems. The use of open-source digital infrastructure allows the design of multiple applications. These may range from individual learning content, whose use can be monitored, to combinations of content with algorithms that can assess competency in a specific content area. The use of these systems to aggregate data can help enable and monitor the implementation of literacy initiatives and their impact at a system level. This data may be reflected for instance in a national literacy data portal to collect, store, share, and analyze literacy-relevant learning data and present it in

an easily digestible dashboard format. For example:

-The EkStep Foundation in India has introduced an open-source digital infrastructure called Sunbird, which allows for data sharing across a myriad of applications and the potential to more effectively develop micro-solutions to specific literacy challenges.

Track and Trace technology. Technology can be used to facilitate efficient purchase, distribution, and use of materials. For instance, through a Track and Trace technology, schools can report the number of books that they need using cellphones, purchases can be made online faster and cheaper, and delivery to the classroom can be traced and guaranteed.

Virtual coaching and information nudges. In-class teacher professional development can be expanded through the use of virtual coaching to provide just-in-time guidance and support for reading instruction strategies. For example:

-Locally designed coaching technology in South Africa: A study of a comprehensive intervention in South African public schools (where teachers received structured lesson plans, educational materials that integrated into the lesson plans, a centralized training, and coaching) found that that locally designed low-cost integrated technology may offer a cost-effective alternative to on-site coaching. In particular, tablet-based lesson plans (preloaded with demonstration videos) and e-coaching were as effective as paper-based lesson plans and a reading coach (Kotze, Fleisch, and Taylor 2019).

-Kenya's successful Tusome project provides a laptop to all teacher trainers, who use them in their coaching interactions with teachers. A variety of other electronic and web-based communication systems gather data on student progress, teacher practices, coach amounts and effectiveness, and administration of the project.

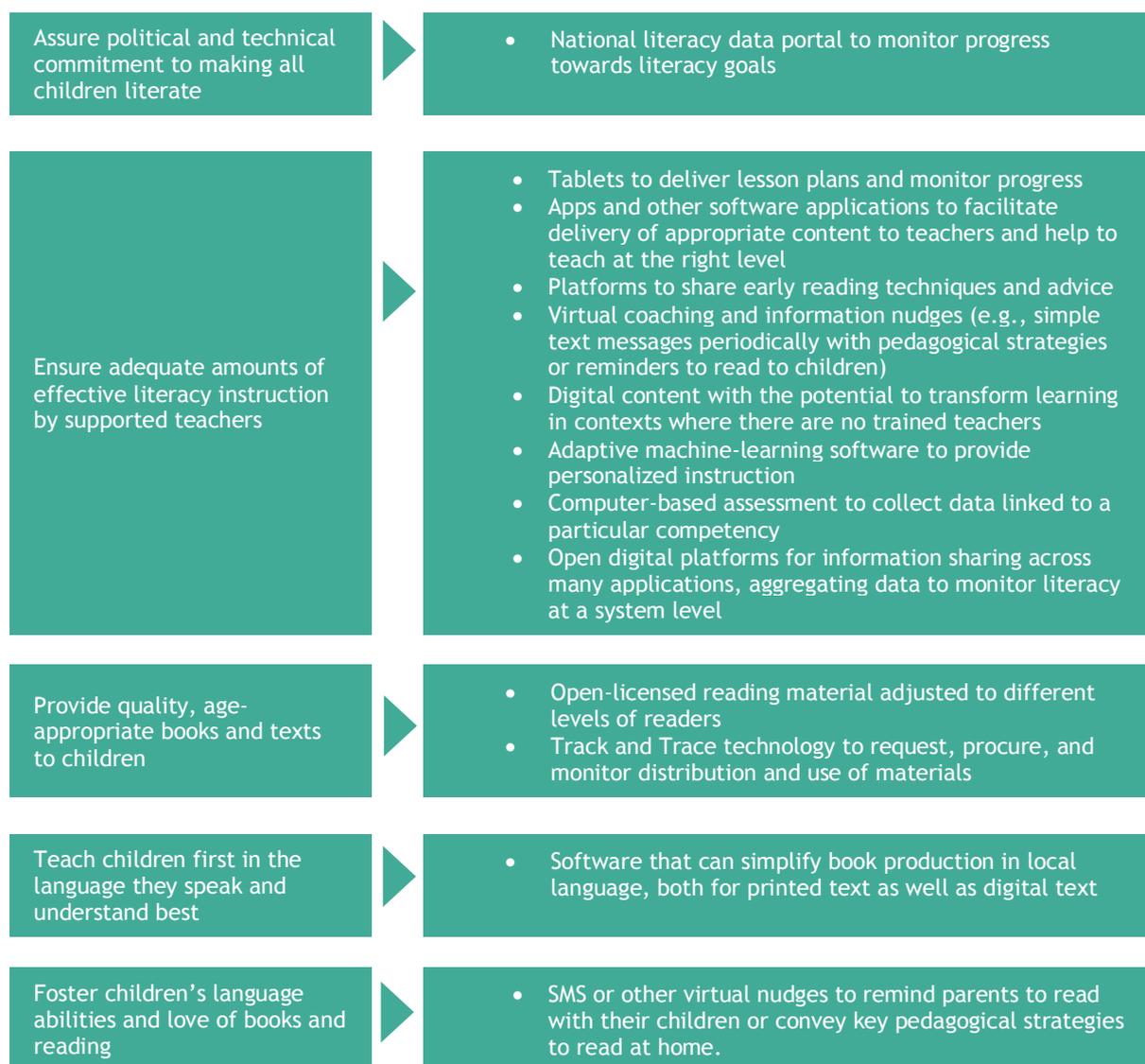
As seen during the COVID-19 pandemic, simple technologies such as text messages can be used to send information to teachers, students, and parents as a means of simple just-in-time pedagogical strategies or reminders to read to children. Additionally, online learning platforms (LMS) created or strengthened during the pandemic can be leveraged to also develop teachers' digital and pedagogical skills and embed virtual coaching beyond the pandemic.

Digitally connected literacy change agents.

Social networks and other technology to connect disparate groups can help connect and coordinate teachers and other individuals and groups of people who support the acquisition of literacy skills (such as parents, caregivers, tutors, and peers) in accessing and sharing best practices regarding early literacy. These can include WhatsApp groups for literacy teachers and online reference documentation for literacy tutors. Physical locations such as community centers, youth centers, schools, and libraries can also be more effectively networked to support literacy interventions.

Technology's potential influence expands through innovation. The approaches listed above do not exhaust what technology can offer for literacy. For instance, digital tools that support the development of writing skills can also help promote greater literacy. Digital tools that support the enabling environment for literacy around a learner (by enabling school feeding programs, for example, or health-related outreach to families) can help strengthen some important preconditions for learning. Media campaigns can use digital tools (broadcast TV or radio, websites, social media) to promote the literacy agenda.

Figure 6-1: Technology uses in each of the Literacy Policy Package components



TECHNOLOGY IS NOT A PANACEA

As documented in the World Development Report 2018 (WDR 2018), although interventions that incorporate information and communication technology can have some of the biggest impacts on learning, they can be ineffective when ill-adapted to the setting.

The World Bank will help shape the supply of technological solutions that build on effective teaching and bolster literacy in developing

countries. World Bank procurement and advisory work on procurement activities will shape public sector purchasing, helping to “educate suppliers” of literacy-related products and services. These can cater to specific needs and operating contexts of user groups working on literacy-related initiatives, especially in low-income, low-resource communities in developing economies. This will occur as part of the World Bank’s larger ‘3D’ initiative to support the *discovery*, *diffusion*, and

deployment of disruptive technology solutions in education:

- **Discover:** *Scope and systematize the frontier of technological solutions and the conditions to utilize them in education*, by maintaining a live knowledge base of ICT solutions proven to be cost-effective and scalable or promising (at a “proof-of-concept” stage), generating and documenting impact evidence and key requirements (e.g., technological infrastructure, digital skills, connectivity) for their effective implementation.
- **Diffuse:** *Ensure that policy makers know what’s out there and the conditions for effective adoption*, by supporting practical knowledge sharing and communities of practice to help policymakers plan and adopt potentially disruptive technologies that can skip ‘traditional’ paths of educational development. This also includes identifying the necessary pre-conditions and enabling environments for their adoption, given the resource and political economy constraints of schools and education systems today.
- **Deploy:** *Support policy makers in the implementation of tech solutions*, including by tackling market and procurement barriers for adoption of the required technology supports (hardware, connectivity, software, energy sources), ensuring integration with the curriculum and classroom instruction (e.g., teachers’ and students’ digital skills), and using innovative tools to support quick learning and iteration in technology-driven projects.

In partnership with DFID and the Gates Foundation, the World Bank has developed an ambitious global “EdTech hub.” Through this partnership, the World Bank will support countries in the adoption of technology packages that support teachers in implementing “Teach at the Right Level” practices, facilitate the deployment of self-paced learning tools for those environments where there is a scarcity of effective teachers,

and enable the management capacity to deploy these solutions at scale. The EdTech Hub seeks to galvanize a global community toward impact, focusing on providing evidence to fund and pursue what works.

Education at its heart is about human connections between teachers, students, parents, caregivers, principals, and the broader community. The COVID crisis, has provided an opportunity for many education systems to redesign the education process, bringing learning to the student. To realize this vision, ministries of education need to focus on designing sustainable policies and programs with a clear purpose, strategy, and vision of the intended education change. This process is guided by having students and teachers at the center of any strategy using EdTech, as technology is only the medium to accelerate learning and reimagine human connections (Hawkins et al 2020). These policies should embrace the five principles guiding the World Bank’s work on EdTech such that they focus on:

- 1) Ask *why?* --EdTech policies and projects need to be developed with a clear purpose, strategy and vision of the desired educational change;
- 2) Design and act at scale *for all* - The design of EdTech initiatives should be flexible and user-centered, with an emphasis on equity and inclusion, in order to realize scale and sustainability *for all*;
- 2) Empower *teachers*- Technology should enhance teacher engagement with students through improved access to content, data and networks, helping teachers better support student learning;
- 3) Engage the *Ecosystem*- Education systems should take a whole-of-government and multi-stakeholder approach to engage a broad set of actors to support student learning; and
- 4) Be *Data-Driven*- Evidence-based decision making within cultures of learning and

experimentation, enabled by EdTech, leads to more impactful, responsible and equitable uses of data. Rigorously and routinely *using data* to learn what strategies, policies and programs are effective for maximizing student learning (Hawkins et al 2020).



Section 4

LOOKING FORWARD

Learning poverty is unacceptable. The fact that about half of children cannot read and understand a simple story by the end of primary schooling is both an unacceptable failure and a tragedy. Reading with comprehension is the foundation on which complex knowledge is acquired, and a child that cannot read is a child that cannot easily learn. The policies of the Literacy Policy Package are a core means of reducing learning poverty and promoting progress for all children as readers.

Progress on learning poverty will be pursued along with overall reform of education systems. While the World Bank continues to support countries in their complex and long-term goals of building quality education systems at all levels, in the short term it also aims to ignite country dialogue around the foundations on which all other educational and skills-related aspirations lie – namely, on the building of foundational literacy for all their children. The learning target is a call to action that sets a global goal for 2030 of reducing, by at least half, the share of children who cannot read and

understand by age 10. The Literacy Policy Package builds on this call to action, consolidating knowledge about the steps that have been followed by countries that have been successful in teaching children to read at scale.

Countries chart individual paths toward a global goal. It would be desirable that each country—taking into account its own data, situation, and ambitions—defined its own national learning target and its national path to achieve it. The elimination of learning poverty depends on countries owning their national goals and leading the efforts to achieve them. The specific actions required to move forward will depend on context. For instance, countries without data will have to start by measuring where they are. Other countries will know their status but might have challenges procuring and distributing books. Still others might have limitations in teacher knowledge or teacher availability. Given the variability in the situation of each country, national plans will differ substantially (see Box 4-1).

Box 4-1

How Far Behind? - reading poverty varies greatly by region and country

It varies by region and country. Although all countries face some degree of reading poverty, there is great variability in learning outcomes *between* regions and countries. For instance, learning poverty ranges from more than 75% in Sub-Saharan Africa to less than 15% in East and Central Asia. Basic reading skills also range widely, from less than 5% of children reading by age 10 in Niger and Chad to close to 100% doing so in Netherlands and Vietnam.

It also varies within countries. High variability *within* regions and countries makes learning poverty a concern for those with low national aggregate rates. For instance, in Europe and Central Asia—the region with the lowest aggregate learning poverty—results vary from 40% in North Macedonia to less than 2% in the Netherlands. This situation results in the fact that “across much of the EU, education is not acting as an engine of social mobility—children from poor background often fail to acquire basic cognitive skills.”^a

The World Bank will work with countries where they are. The Bank will work to support governments in increasing the learning outcomes of those that are falling behind wherever they are, be it the poorest of nations or thriving middle- or high-income countries. The components of the policy package are not a recipe. They are a sequence of actions that can be applied to different countries depending on their initial state. For instance, countries that have high levels of learning poverty should start by focusing on reducing the proportion of nonreaders and increasing the number of beginning and intermediate readers, instead of trying to get children into the advanced reader category. Once they reach this more realistic target, they can shift the emphasis into higher levels of attainment for all students. Additionally, detailed scripted lessons might be necessary for countries with high levels of learning poverty, while countries with more capacity might benefit from lesson plans with greater teacher autonomy to select curricular content and pedagogical approaches.

Sources: J.M. Stern and B. Piper, *Resetting Targets: Examining Large Effect Sizes and Disappointing Benchmark Progress* (RTI Press, 8870, 2019); C. Ridao-Cano and C. Bodewig, *Growing United: Upgrading Europe's Convergence Machine*. World Bank, 2018. (a) Quotation from Ridao-Cano and Bodewig, *Growing United*, p. 27.

Foundational skills are central to the education dialogue. In overall country dialogue and when defining Country Partnership Strategies, the World Bank will endeavor to provide information on how to impart foundational skills to children. The results of these country dialogues should be (1) enhanced use of data and statistics for problem diagnosis; (2) increased analytical work to fill in gaps; (3) increased national attention to deficiencies in the system; and (4) greater institutional emphasis on helping countries increase literacy through lending and analytical work.

Data-informed dialogues are needed. In dialogue related to lending and operations, the World Bank will consider the best-available data on how to increase literacy at scale and accelerate each country’s national path to eliminate learning poverty. As mentioned in previous chapters, the World Bank will support countries in the implementation of effective strategies to improve early literacy. These include supporting the establishment of national and international systems to measure progress; assisting governments integrate evidence of how children best learn to read into

national standards; assisting in the implementation of effective professional development for teachers and principals; helping countries promote the development of local education publishing industries; shaping the supply of literacy materials and education technology for use of low income educational settings; stimulating authorship and publishing capacity across language groups; and collaborating to generate global public goods around lesson plans, reading materials, teacher guides, student assessment.

Successful interventions are growing. The World Bank is already supporting early reading interventions in many countries, including those that need it most (see Figure 4-1). Among IDA countries there are a total of 37 active projects that involve at least one of the components of the Literacy Policy Package. Furthermore, 16 of these projects are located among the 30 lowest-performing countries in the Human Capital Index. These projects are being implemented in all World Bank regions, although there are a higher number of operations in Africa, followed by South Asia and Latin America and the Caribbean.

Figure 7-1: Sample of World Bank operations that are following one or more components of the Literacy Package

<p>Ensure effective teaching for literacy</p>	<ul style="list-style-type: none"> • In Madagascar, 35,000 teachers will be trained in the use of structured scripted lessons in early grade reading. • The Lesotho project will address the fact that only 69% of teachers have critical reading skills with a teacher training program accompanied by subject competency texts and ongoing classroom support. • The Burundi project includes real-time remediation activities for children and teachers based on in-classroom observation and on tracking of progress in reading accuracy and comprehension. • In Cape Verde, a Student Assessment System will be put in place to accompany and monitor the education reform.
<p>Ensure access to more and better age-appropriate texts and readers</p>	<ul style="list-style-type: none"> • In Ethiopia, to ensure effective distribution of textbooks an online textbook distribution and inventory management system will be established. • Guinea-Bissau will use school inspectors to monitor textbook use and availability in the classroom for instruction.
<p>Teach children in mother tongue</p>	<ul style="list-style-type: none"> • The Gambia project is championing a bi-literacy approach (national languages and English) to improve early reading skills.
<p>Foster children’s language abilities and love of books and reading</p>	<ul style="list-style-type: none"> • The PEARL project is supporting Pacific Islands countries to bridge the gap between school readiness and early literacy by implementing interventions such as community-led playgroups.

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