Aligning Levels of Instruction with Goals and the Needs of Students (ALIGNS): Varied Approaches, Common Principles

by Yue-Yi Hwa, Michelle Kaffenberger, and Jason Silberstein

Introduction

Learning outcomes in many low- and middle-income countries are very low, even among children who spend many years in school. Across the seven countries that participated in the PISA-D assessment, an internationally comparable assessment adapted to developing countries, on average only 12 percent of 15-year-olds who were enrolled in Grade 7 or above reached the Sustainable Development Goals target for minimum proficiency in mathematics.[1] Learning profiles from more than 50 countries with Demographic and Health Surveys data show that, among young women who have completed primary school but no higher, on average only half can read a simple sentence without help (Pritchett and Sandefur, 2020). These are just two data points from a large body of accumulated evidence which shows that, in many countries, even several years of schooling result in only limited learning (ASER Centre, 2018; Kaffenberger and Pritchett, 2020; PAL Network, 2020; Patel and Sandefur, 2020; Uwezo, 2019).

Low learning results partly from curricula and instruction that are poorly aligned with children's learning levels and needs. In many countries, curricula and classroom instruction are overambitious relative to the actual quality of instruction, moving too fast for children to keep up, and causing many children to fall behind and stop

Key Points

- Aligning instruction with children's learning levels has resulted in large gains in student learning in developing countries when implemented through a variety of approaches. We identify four principles that are common across successful approaches.

- **Principle 1:** Set clear learning goals that are coherent with children's current learning levels. In most developing country contexts, particularly for primary school-age children, this means focusing on foundational literacy and numeracy.

- **Principle 2:** Make instruction coherent with children's current learning levels and targeted learning progress. Different approaches act on different components of instruction, including national curriculum standards, the content taught in the classroom, teaching and learning materials, and others. Many approaches bring multiple instructional components into coherence with each other.

- **Principle 3:** Provide effective and coherent support to teachers. This is often delivered through practical, ongoing coaching rather than traditional teacher training.

- **Principle 4:** Find contextually appropriate ways to implement the preceding principles.

- In support of these principles, this note reviews related evidence from the cognitive science, education, and programme evaluation literatures. It then presents three distinct approaches to aligning instruction to children's learning levels—a national curriculum reform in Tanzania, a national literacy programme in Kenya (Tusome), and a remedial programme operating in many countries (Teaching at the Right Level)—and illustrates how each approach embodies the four principles. It concludes with a longer (though not exhaustive) table of programmes that show the full range of possible ways to implement the four principles.

---

[1] Source: Authors' calculations based on PISA-D data (OECD, 2018).

learning even if they stay in school (Pritchett and Beatty, 2012; Kaffenberger and Pritchett, 2020). A study in India using computer-based testing, for example, found that many children in Grades 7 and 8 were at only a Grade 2 curricular level (Muralidharan and Singh, forthcoming). The official curriculum was five to six years ahead of these children's mastery levels.

If children do not master foundational skills like literacy and numeracy early on, but the curriculum continues progressing, then they will not be able to engage in more advanced topics in later grades (Belafi et al., 2020; Gordon et al., 2019), and they will stop learning or drop out. In Indonesia, a study found that the proportion of children who could correctly complete a set of foundational mathematics questions increased each year through Grade 6, after which it flattened—children who had not gained these skills by Grade 6 did not gain them in later grades (Beatty et al., 2018). The study further found that additional years of schooling beyond Grade 6 were associated with only very small learning gains, perhaps because of these foundational gaps.

Furthermore, when average learning levels are low, there is often wide variation in learning levels among children in the same grade level. The study in India cited above found that the learning levels of children in Grade 8 varied from a Grade 2 learning level to a Grade 8 learning level (Muralidharan and Singh, forthcoming). Similarly, the 2018 Uwezo survey in Uganda found that while 39 percent of children in Grade 5 could read and comprehend a story in English, 16 percent were either non-readers or could read only letters (and not words), representing a wide spread in learning levels (Uwezo, 2019). In such situations, classroom instruction that follows the official curriculum may be aligned only with the learning levels of the most advantaged children who are on par with grade-level expectations, thus widening pre-existing inequities.

In recent years, advancements have been made on approaches that improve foundational learning outcomes by better *aligning* instruction with children's current learning levels. Ensuring that instruction does not outpace what students can do makes them more likely to master foundational skills and continue learning for longer. In this way, better aligned instruction can also help to achieve equity goals by ensuring that no child is left behind (Rodriguez-Segura et al., 2020).

In this Insight Note, we present a set of principles shared by varied approaches that have all succeeded in improving foundational learning in developing countries. These approaches were not explicitly designed with this list of principles in mind; rather, the principles emerged through analysis and synthesis of successful approaches. We call such efforts ALIGNS approaches, which stands for **Aligning Levels of Instruction with Goals and the Needs of Students**. ALIGNS approaches take many forms, ranging from large-scale policy and curricular reforms to in-school or after-school remedial programmes.

In this note, we describe the principles that ALIGNS approaches have in common (Section I); review interdisciplinary evidence on why aligning instruction with children's learning levels improves learning (Section II); present three cases from across the spectrum of approaches and illustrate how each embodies the ALIGNS principles (Section III); and provide a longer (though not exhaustive) table of programmes that illustrates the range of possible approaches to implementing ALIGNS principles and describes the design features across which they vary (Table 1).

I. Core Principles of ALIGNS Approaches

While the approaches we group together as ALIGNS approaches take different forms, they exemplify a set of core principles. We describe these principles here, and illustrate them in the descriptions of three cases that follow in Section III. ALIGNS approaches endeavour to:

Principle 1. Set clear goals for children's learning progress in line with current learning levels.

Most policies and programmes we identify as ALIGNS approaches involve clearly articulated learning goals in line with children's current learning levels.[2] Where foundational literacy and numeracy have not yet been achieved by all children, goals typically prioritise these foundational skills to enable further learning.[3] Given the low observed learning levels in many developing countries, most ALIGNS approaches we identify have found weak initial mastery of foundational

---

[2] See, for example, Crouch (2020).

[3] See, for example, Belafi et al. (2020).

literacy and/or numeracy skills in their respective education systems, and, accordingly, have set clear goals for achieving universal mastery of these foundations.

Setting appropriate goals for learning progress requires an accurate understanding of current learning levels. New assessment data on learning levels, which provides new information on learning in an education system, has itself spurred this kind of goal-setting and commitment to change for many ALIGNS approaches.[4] Citizen-led assessments such as the ASER and Uwezo surveys, and others associated with the People's Action for Learning (PAL) Network, have provided valuable information on mastery of foundational skills by children across the primary grades in many countries (for more details on citizen-led assessments, see Box 2 in Section III.) Where national or sub-national assessments are conducted in the early primary years, these have been used to gain an understanding of current learning levels among primary school students.[5] In Sobral, Brazil, poor results on literacy assessments led to clear, specific goals for all children to achieve foundational literacy by Grade 2 (Crouch, 2020). In other contexts, programmes have conducted diagnostic assessments among a cohort or representative sample of children at the start of a programme, and set learning goals accordingly.

Principle 2. Align instruction to be coherent with both current learning levels and targeted learning progress.

Through varied means, ALIGNS approaches all endeavour to better align instruction to be coherent both with children's current learning levels and with the progress needed to achieve learning goals. There are multiple ways in which programmes have improved alignment between instruction, current learning levels, and targeted learning progress; these are discussed in detail in subsequent sections. Instructional components that have been targeted and brought into alignment include formal curriculum standards; content taught in the classroom; pedagogical approaches used to deliver this content; assessments used to evaluate students' progress; and instructional materials provided to teachers and students. Many successful ALIGNS approaches change multiple instructional components simultaneously—bringing the components into alignment with each other as well as with children's learning progress—rather than simply changing one component at a time.

In some contexts, ALIGNS approaches have involved reorienting curriculum standards for an entire system to better meet the learning needs of the average child. For example, our first case in Section III centres on streamlining previously overburdened curriculum standards so that there are fewer topics to cover, enabling teachers to dedicate more time to ensuring that children master foundational skills. In other contexts, alignment has been focused on dedicated instructional periods that covered foundational skills and used appropriate assessments, instructional materials, and pedagogical approaches to improve learning, as in our other two cases in Section III. While the multiple approaches that we group together under ALIGNS may appear quite different, they follow the same underlying principle around adapting instruction but act on different instructional components according to a particular context and opportunity to improve learning.

Principle 3. Provide effective and coherent support to teachers and instructors.

Adapting instruction to children's learning levels is a nontrivial undertaking and requires high-quality support for teachers or for the instructors in programmes that occur outside of the classroom. This is particularly true since ALIGNS approaches typically represent a marked departure from the business-as-usual curricula and instructional components that are ingrained into the everyday practices of teachers and instructors.

Consequently, many successful ALIGNS approaches do not confine their investments in training to the beginning of the programme. Instead, they provide ongoing coaching so that teachers receive continuous feedback for incremental improvement. Feedback is often tightly focused on reinforcing the key changes to instructional components being undertaken by the programme or reform, such as ways of employing new pedagogy, materials, and lesson plans. Coaching has also served as an effective, low-stakes accountability mechanism to ensure that teachers and instructors are implementing the ALIGNS approach appropriately and with fidelity. Additionally, coaches sometimes provide

---

[4] See, for example, Crouch (2020) on Kenya and Sobral, Brazil and Schneider et al. (2018) on Ecuador

[5] Primary leaving exams, however, are unlikely to be useful for aligning instruction to ensure mastery of foundational literacy and numeracy as these exams generally focus on later primary-school skills, and leave out lower-performing children who have either dropped out before the end of primary school or who have been held back or otherwise prevented from taking the leaving exam.

feedback to programme managers to inform ongoing training sessions or programme design tweaks. This emphasis on classroom-specific feedback and coaching coheres with research on effective teacher training and coaching more generally (e.g., Popova et al., 2016).

Principle 4. Tailor implementation to the opportunities and constraints of the context.

The ALIGNS core principles are compatible with a wide variety of programme variants. Each approach adapts important elements of design and implementation to the needs and possibilities of its context. For example, different ALIGNS approaches target students very differently: some align instruction to all children in a grade; others group children together within a grade who have not mastered a specific skill; and others differentiate instruction for individual children. There is no single best model for implementing the ALIGNS principles in an education system. A feature that enables a programme to work in one context may actually hinder it somewhere else, and successful programmes make a range of choices to traverse the multi-dimensional "design space" in their particular context (Pritchett, 2017). In short, the best approach relies on adaptation to the context.

We illustrate this in the examples in Section III, and explore it further in Table 1 at the end of the Note, where we summarise 12 ALIGNS approaches that have delivered learning gains in a wide range of low- and middle-income countries. For each approach, the table documents choices in programme implementation for design elements including content, targeting of students, scheduling, use of technology, and type of instructors and coaches. This list of programmes and their design features provides an illustrative–not exhaustive–sample of the diversity of programmes that embody the ALIGNS core principles.

Taken together, these four principles underly many successful programmes and efforts aiming to align levels of instruction to both desired learning goals and actual learning levels.

II. Why aligning levels of instruction with children's learning levels and goals for learning progress should be prioritised

A range of findings from cognitive science (focused on the individual learner), educational research (focused on the classroom), and evaluations of ALIGNS approaches (focused on programmes and reforms) show that aligning levels of instruction to the learning levels of students can be a powerful enabler of learning. The evidence presented below casts a spotlight on the instructional processes at the heart of ALIGNS.

At the level of the individual learner

Cultivating children's learning requires instruction to be aligned with both their current learning levels and goals for their subsequent learning progress. At the level of the individual learner, this is supported by research in cognitive psychology on the architecture of the human brain and how the brain incorporates new knowledge. There are two fundamental points to note.

Firstly, instruction must be aligned with children's current learning levels because human learning is cumulative. The cumulative nature of learning is a result of how our working memory and long-term memory interact. Working memory has a very limited capacity for actively processing new knowledge, but this capacity expands greatly when building on knowledge that has previously been incorporated into long-term memory (Abadzi, 2020; National Academies of Sciences, Engineering, and Medicine, 2018). A foundation of prior knowledge in long-term memory enables children to use their working memory to build new knowledge on top of this foundation. However, if a teacher asks a student to complete a learning task for which they lack sufficient prior knowledge, then either:

- they will fail to complete the task;

- they will complete the task superficially, but will remember the new content inaccurately because they lack the prior knowledge needed to construct accurate mental representations of the new content (Kirschner et al., 2006); or

- they will complete the task superficially, but will not remember any of the new content because their working memory was fully occupied with strategies for completing the task, leaving no room for thinking about the meaning of the new content (Sweller, 2010).

This implies that the content of instructional tasks must be suitably challenging relative to students' prior knowledge—or,

in other words, relative to their current learning levels.

Secondly, instruction must also be aligned with children's *subsequent learning progress*. Humans learn—that is, we incorporate new factual, conceptual, and procedural knowledge into our long-term memory—by actively focusing our working memory on the new knowledge. This implies that the design of instructional tasks should orient students' working memory toward the desired new knowledge (Willingham, 2003). To give a negative example: if the main task in a lesson that is supposed to be about reading involves listening to the teacher read a text aloud and repeating each sentence after the teacher in chorus, then students are more likely to acquire new knowledge about pronunciation rather than reading.

The interplay between alignment with current learning levels and orientation toward subsequent learning progress is illustrated in Figure 1. If a child can read simple words but lacks fluency in reading sentences and paragraphs, then asking them to read a complicated text aloud by repeating after the teacher (Cell A) would be both misaligned with their current learning level by presenting a text that is too difficult, and misaligned with learning progress by allowing the child to simply repeat what the teacher says rather than trying to decode the text. Thus, this instructional task would be coherent with neither current learning levels nor subsequent learning progress. Such misaligned content and poorly designed tasks are common in many classrooms within low-performing education systems (for a concrete example, see Burdett, 2017, Appendix A). A second scenario, asking the child to read a series of letters of the alphabet (Cell B), would be coherent with the child's current learning level, but incoherent for cultivating subsequent learning progress because the child has already mastered the skill of decoding individual letters.

While orientation toward subsequent learning progress is necessary, it is not sufficient for effective instruction. The third scenario in Figure 1, asking the child to read a novel independently (Cell C), clearly involves new conceptual and procedural knowledge of reading (i.e., it is oriented toward learning progress)—but it would also be unrealistically challenging given the child's current learning levels. Rather than helping the child to develop greater reading fluency, it could instead result in the child losing interest and motivation to practice reading. Alternatively, asking the child to read a few simple sentences, with teacher feedback when they falter (Cell D), would be both appropriately challenging given their current learning level and appropriately oriented toward the desired goal of building fluency in reading. Successfully completing the task would require the child to focus their working memory on the process of decoding and understanding the sentences, which would help consolidate their long-term procedural knowledge of reading.

Figure 1: The likely outcomes of different reading tasks for a child who can read simple words but lacks fluency in reading sentences and paragraphs

		Is the task appropriate for the student's current learning level?	
		Misaligned with learning level	**Aligned with learning level**
Is the task oriented toward the student's subsequent learning progress?	**Not oriented toward learning progress**	**A**. Read a complicated text aloud following a teacher's example *Likely outcome:* child will "read" the text by repeating what they hear, without actively reading or thinking about the meaning of the text.	**B.** Read a series of letters of the alphabet *Likely outcome:* child will read the letters with little effort, but will neither gain new knowledge nor consolidate prior knowledge.
	Oriented toward learning progress	**C.** Read a novel independently *Likely outcome:* child will be unable to understand the novel and may lose motivation to practice reading.	**D.** Read a simple text with a few new words *Likely outcome:* child will actively and effortfully read the text, thus learning new words and strengthening reading fluency.

Source: Authors' synthesis.

Hence the importance of **aligning levels of instruction with goals** (i.e., targeted learning progress) **and the needs of students** (i.e., current learning levels). Both the content and design of instructional tasks, lessons, or modules must

work together to facilitate students' learning progress. This is not simply a matter of whether a task is "easy" or "hard", because the appropriate level of difficulty depends on the learners in question. Moreover, as shown in Figure 1, a task can be inappropriately difficult in two different ways, whether because it requires prior knowledge in long-term memory that the child has not yet attained, (e.g., Cell C)—or because it demands too much working memory (e.g., Cell B). Rather than thinking in terms of ease or difficulty generically, it is more important to consider whether an instructional task meets the needs of the learners in question by being coherent with both their current levels and their subsequent learning progress.

At the level of the classroom

Pedagogical research has long emphasised practices related to ALIGNS. For example, matching classroom teaching to students' varied learning levels is a central component of differentiation, which itself is an oft-cited concept in pedagogy (e.g., Tomlinson et al., 2003).

Another related concept is Vygotsky's Zone of Proximal Development (Vygotsky, 1978; see Chaiklin, 2003. for an overview). Vygotsky, an early 20th-century developmental psychologist, posited that there are three types of instructional tasks:

- tasks that children can perform independently;

- tasks that they cannot perform independently but can perform with the support of a more capable peer or adult—these tasks constitute the Zone of Proximal Development (ZPD); and

- tasks that are beyond their capabilities.

The implication is that learning and instruction should be concentrated in the ZPD, because guided practice on tasks in the ZPD will eventually enable the child to perform these tasks independently. A similar concept that emerged later is scaffolding. In a scaffolded task, the teacher helps a child to complete a challenging task by providing guidance that simplifies the task and orients the child's attention toward the goal (Wood et al., 1976)—or, in other words, to channel their working memory away from extraneous elements and toward the salient new knowledge. For an example of how these theories may translate to practice, see Box 1.

Box 1: **What might the Zone of Proximal Development look like in practice?**

The NGO Young 1ove, in Botswana, offers one example of what the ZPD and alignment with children's learning levels and learning progress can look like in practice. Young 1ove facilitators deliver the Teaching at the Right Level (TaRL) programme for foundational mathematics in the form of after-school sessions for children in the middle primary grades who have fallen behind the national maths curriculum.

Prior to the start of a TaRL programme in a given school, children in the targeted grades take a short diagnostic assessment to identify those who have not mastered basic numeracy skills that were taught in earlier grades. These children are then grouped according to their current learning levels: e.g., a group that has yet to master addition, a group that has mastered addition and subtraction but has yet to master multiplication, and so on.

At the end of each after-school session, every child independently answers a checkpoint maths question to test their mastery of the day's content. If approximately 70 percent of children in the group answered the question correctly, the next day's lesson will move on to the next topic. If fewer than 70 percent are correct, the topic is re-taught the next day. If all children answer the checkpoint correctly, this may indicate that the day's material was too easy, and facilitators will adjust the rate of progress accordingly. Also, if a particular child is progressing more rapidly than the others in the group, then they will be moved up to a more advanced group (if such a group is present in their school's TaRL programme), in line with the overall goal of helping children to catch up with their age-appropriate curriculum as quickly as possible. Additional attention is given to the children who have not yet mastered the topic so they quickly catch up to their peers in their group.

This is one manifestation of a teaching principle in the Young 1ove TaRL facilitator field guide: "Keep children on the cusp of learning." (Or, put differently, "Align levels of instruction with goals and the needs of students.") For more details on TaRL approaches in different countries, see Section III.

At the level of the programme

Evaluations of a range of instructional approaches that apply ALIGNS principles have found positive effects on student learning. For example, mastery learning is a long-established approach in which instruction only progresses to new content once students have demonstrated mastery of the initial content, with appropriate feedback and support to help them achieve this mastery (Bloom, 1984; Kulik et al., 1990). A summary of meta-analyses of dozens of mastery learning evaluations, conducted mainly in the United States, concluded that mastery learning can be challenging to implement, but can lead to an added five months' worth of learning progress over the course of the intervention (Education Endowment Foundation, 2018; see also Jerrim and Vignoles, 2016).

Similarly, ALIGNS approaches have demonstrated student learning gains in a range of developing countries, as discussed below in Sections III and IV.

III. How seemingly different approaches all meet the ALIGNS principles to improve learning

This section describes three cases of the ALIGNS core principles in practice, each of which has produced large gains in student learning outcomes at scale in developing countries. These are far from the only successful ALIGNS approaches. These cases were selected to illustrate the varied ways in which the ALIGNS principles have been fulfilled across very different contexts. By presenting the cases side-by-side and mapping them to the four ALIGNS principles, we illustrate the shared underlying logic of these seemingly disparate approaches.

1. Tanzania's "3Rs" curriculum standards reform

In 2013, Tanzania implemented "Big Results Now!" (BRN), a national effort initially focused on reforming six key sectors. Education was one of these priority sectors in part because recent assessments of systemwide learning had revealed plummeting pass rates on national exams and low overall learning levels. Pass rates on the government's Primary School Leaving Examination more than halved from 70 percent in 2006 to 31 percent in 2012. Furthermore, Uwezo, an annual citizen-led assessment that began in Tanzania in 2011, consistently found low mastery of foundational skills. This combination of disappointing assessment results led to the perception of a national educational crisis, and placed substantial political attention on education reform (Todd and Attfield, 2017).

Accordingly, two out of the ten key performance indicators (KPIs) for the BRN education goals were centred on the "3Rs"—reading, writing, and arithmetic—in the early grades. This reflects ALIGNS *Principle 1*, setting clear learning goals in line with current learning levels, especially for foundational skills. One KPI set a target of conducting 3Rs teacher training for over 12,000 Grade 1 and 2 teachers. The second KPI focused on introducing an annual Grade 2 assessment to measure and transparently report on foundational skills (Government of Tanzania, 2015). In 2013–14, the government undertook the first of these assessments using a version of the Early Grade Reading and Math Assessments (EGRA/EGMA).

Disappointing results on the EGRA/EGMA assessments inspired a further effort to align instruction to improve foundational skills, a reflection of *Principle 2*. In 2015 the government decided to reorient the national curriculum standards for Grades 1 and 2 toward the 3Rs. In the words of the policy document on the reform, "the Curriculum for Standard I and II was overloaded with subjects, causing teachers to overemphasise the teaching of subject content and placing less emphasis on the development of the basic skills and competences in reading, writing and arithmetic that are necessary in order for learners to effectively learn content" (Ministry of Education, Science and Technology, 2016). Unlike the previous curriculum, which had eight different subjects including "Vocational Skills" and "Information and Communications Technology" for Grade 1 and 2 students, the new reform dedicated 80 percent of instructional time to Kiswahili and mathematics. This increased the amount of time students spent on these two subjects by around 2.4 hours per week, out of 15 total weekly instructional hours for all subjects, by eliminating or integrating other subjects (Mbiti and Rodriguez-Segura, forthcoming). An external evaluation of the reform estimates that it resulted in large, positive, and significant increases in children's learning for both subjects (Mbiti and Rodriguez-Segura, forthcoming).

A further way the reform adapted instruction was through a dedicated focus on the 3Rs in a single language, which meant one of the subjects eliminated from the Grade 1 and 2 curriculum was English. Delaying the study of English as a subject and focusing solely on Kiswahili, the national language, during these foundational years was a major departure

from the previous curriculum standards, but one that allowed more focus on ensuring literacy in Kiswahili. Mbiti and Rodriguez-Segura's evaluation finds that while the reform may have had some negative side effects on English skills, these were not large enough to counterbalance the learning gains in mathematics and Kiswahili. In fact there may have even been some positive spillovers for basic English subskills.[6]

Alongside the new 3Rs curriculum, contemporaneous reforms under BRN also likely contributed to the realignment of other components of instruction to children's learning levels and progress.[7] The new, annual Grade 2 assessment shone a national spotlight on foundational skills and likely helped raise their importance in the eyes of teachers, head teachers, and other stakeholders. The curricular reform was also accompanied by the creation and distribution of instructional materials, like textbooks, that aligned with the new curriculum, although the evaluation by Mbiti and Rodriguez-Segura (forthcoming) suggests only 40 percent of teachers had received these materials during the initial years of the reform.

The curriculum reform also succeeded in changing instruction through the support given to teachers, a reflection of ALIGNS *Principle 3*. Training in the new curriculum was strongly correlated with the reform's success in raising student learning. In schools where at least one teacher received preparatory training in the new curriculum before the 3Rs reform was formally implemented, student test score gains were nearly twice as large as for the full sample of schools (Mbiti and Rodriguez-Segura, forthcoming).[8] Eventually, most teachers received training from the government in the 3Rs curriculum. Concurrent donor-led teacher training efforts with a focus on early-grade pedagogy for literacy may have also helped support teachers (Todd and Attfield, 2017).

This major reform of the national curriculum reflects the political opportunity Tanzania had to reimagine early grade learning goals and instructional practices. Taking advantage of this political opportunity to realign curriculum and prioritise foundational skills reflects ALIGNS *Principle 4*, of tailoring an approach to the opportunities (and constraints) of a given context.

2. Kenya's Tusome programme

Between 2009 and 2012, systemwide assessments of student learning in Kenya, including Uwezo's citizen-led assessments and EGRA/EGMA, provided a "wake-up call" around a lack of foundational literacy and numeracy (Crouch, 2020). For example, EGRA results showed that 40 percent of students could not read with comprehension by the end of Grade 2 (Piper et al., 2018). Following these disappointing outcomes, Kenya invested in a national literacy programme called Tusome with a specific focus on reading pedagogy in Grades 1–3. It was implemented in all 23,000 public primary schools and 1,500 low-cost private schools in the country between 2014–2019. At the heart of Tusome was a set of clear goals for student learning centred on foundational literacy (*Principle 1*) that specified numerical benchmarks for reading fluency in Kiswahili and English in Grades 1, 2, and 3.

Tusome pursued these goals and realigned instruction (*Principle 2*) through a comprehensive series of changes to core instructional components: the content taught in classrooms, instructional materials, classroom pedagogy, and formative assessments. In contrast to the Tanzania case, Tusome did not change the top-level curriculum standards, or the amount of time dedicated to foundational skills. Instead, Tusome took the allotted 30-minute classes in English and Kiswahili and transformed what happened during them.

In practice, this meant creating a "clear, specific, year-long scope and sequence of curriculum-based content" that was packaged, via a teachers' guide, into structured lessons (Crouch, 2020). New student books, in turn, were aligned with the new teachers' guides. Most of the major decisions that mediate the interpretation of curriculum standards into

---

[6] Furthermore, Mbiti and Rodriguez-Segura (forthcoming) offer some suggestive findings of positive spillover effects from Kiswahili on basic English subskills, with losses concentrated in more advanced subskills. This implies the possibility that the way that Tanzania adapted the curriculum may have actually laid the groundwork for long-term learning gains in English, rather than representing a trade-off between Kiswahili and English skills.

[7] BRN also included education reforms that focused on information (through the 3Rs Grade 2 assessment and a separate national school ranking based on primary and secondary school-leaving exam scores); teacher motivation (through monetary and non-monetary incentives for teachers and schools); financing (through streamlining school capitation grants); and support (through the 3Rs teacher training, training on remediation strategies for struggling students, and a head teacher training programme centred on a school improvement toolkit) (Mbiti and Rodriguez-Segura, forthcoming).

[8] Schools where teachers were trained earlier were not randomly selected, and therefore the higher test scores—while suggestive—do not have a causal interpretation.

what actually occurs in the classroom—such as pacing, level, and activities—were structured in the teachers' guides and student books (Crouch, 2020). This helped to achieve tight internal coherence between instructional components. An equal achievement was that these materials actually reached the classroom: an external evaluation found that 99 percent of classrooms had a 1:1 student-to-book ratio for both English and Kiswahili; 97 percent of classrooms had the teachers' guides; and 95 percent of teachers were using the guides (Freudenberger and Davis 2017).

To continuously monitor students' progress against its core goals, Tusome also introduced regular assessments. This assessment was performed by existing government workers, Curriculum Support Officers (CSOs), who were already the key bridge between the education bureaucracy and schools with responsibility for visiting classrooms and providing supervision and support to teachers in an average of 20 schools each. As part of Tusome, the CSOs began to randomly select three students during their visits to take on-the-spot assessments of oral reading fluency based on that particular term's material. These results were then recorded on a tablet and aggregated on a national dashboard that displayed average reading fluency (in words per minute) and the percentage of students meeting established benchmarks.[9]

One of the defining features of Tusome was the degree to which it supported teachers (*Principle 3*) in changing their instructional practice. While this was partly achieved through six days of teacher training at the outset, Tusome channelled most of its support efforts into ongoing classroom observations and coaching by CSOs. The coaching had three main features: high frequency; a laser focus on the newly prescribed classroom content and pedagogy; and effective feedback. First, Tusome greatly increased the number of classroom visits by CSOs. In 2016, while Tusome was in full swing, each CSO performed an average of 90 visits, amounting to 113,604 unique classroom observations, and 80 percent of Grade 1 and 2 teachers received at least 1 observation per term (Piper et al., 2018). Second, the coaching reinforced Tusome's intended changes to lesson content and pedagogy. CSOs were expected to monitor the adoption of the new curricular scope and new books, down to the level of whether each part of the daily lesson was delivered, and whether the teacher was employing elements of the prescribed Tusome pedagogy. To deliver this support to teachers, the CSOs themselves received support in the form of thrice-yearly training and tablets equipped with classroom observation tools (Piper et al., 2018). Finally, each CSO provided immediate feedback to teachers after each lesson. The feedback was formative, rather than high-stakes, and drew on the rigorous evidence base underlying Tusome's intended changes to instructional practice. The quality of the feedback fostered trust and professional accountability between coaches and teachers, and an attendant shift in school culture around the importance of good pedagogy (Crouch, 2020; Piper et al., 2018).

Another dimension of Tusome's success was its extensive use of pilots to adapt implementation decisions to the Kenyan system and context (*Principle 4*). Beginning in 2012, the Kenyan Ministry of Education and its development partners ran a multi-year, multi-pronged pilot called the Primary Math and Reading (PRIMR) initiative. PRIMR refined the approach that became Tusome by studying, for example, the capacity of existing government systems and personnel to deliver coaching, and by determining that the additional literacy gains from including teachers' guides and student books in the reform far outweighed their cost (Piper et al., 2018). PRIMR also iterated certain details of implementation, such as soliciting teacher feedback on the lesson guides to make them more relevant and user-friendly (Crouch, 2020).

3. Teaching at the Right Level remedial programmes for foundational skills

Teaching at the Right Level (TaRL) was pioneered by Pratham, a leading Indian NGO, in the early 2000s.[10] The approach is centred around setting clear learning goals for foundational reading and math skills that are directly tied to children's current learning levels (*Principle 1*). This goal grew out of a series of government and independent assessments of student learning in India that highlighted the severity and ubiquity of the learning crisis across the country (Banerji and Chavan, 2016).[11] Pratham itself facilitated one of the best known of these assessments—the Annual Status of Education

---

[9] While the formative assessment data were used to inform relatively high-level feedback loops, such as teacher training at the county (subnational) level, they were never used in tighter feedback loops to target support to CSOs, specific teachers, or students (Piper et al., 2018). Despite this missed opportunity, the various improvements bundled within Tusome resulted in sufficient alignment to students' current learning levels to facilitate subsequent learning progress.

[10] Pratham's approach is also known as Combined Activities for Maximised Learning (CAMaL), which means "magic" or "wonder" in Hindi. See https://www.pratham.org/programs/education/elementary/.

[11] Banerji and Chavan (2016) cite the Indian government's NAS/NCERT assessments from 2006–2015 and independent assessments from Educational Initiatives 2006–2014 and Young Lives 2014.

Report (ASER), which published its first nationally representative report in 2005—which found that nearly two-thirds of students in government schools in Grades 2–5 could not read a simple Grade-2-level story (Pratham Resource Center, 2005).

The TaRL approach has had multiple programmatic incarnations over time. Today, Pratham and its partners advocate two delivery models for TaRL that have had positive impacts in multiple contexts. The first model revolves around learning camps that offer a concentrated series of remedial classes outside of school hours and are usually led by a civil society organisation with volunteer teachers. The second model integrates the approach into government systems, and uses dedicated time during the regular school day for TaRL-style remediation led by regular teachers (Banerjee et al., 2016).

Both models are currently being implemented at various scales through programmes run by Pratham in India. These models have also been adopted by multiple partners, and variations of them are running in 10 countries across sub-Saharan Africa under the umbrella of TaRL Africa. In total, TaRL approaches have reached over 50 million students (J-PAL, 2019).

Across delivery models and implementation contexts, the TaRL approach uses a consistent methodology for aligning instruction with students' learning levels and learning progress (*Principle 2*). This methodology touches on a number of instructional components at once: an initial diagnostic assessment of children's learning levels; engaging pedagogical practices; level-appropriate instructional materials; and regular use of formative assessments. (For an example of this approach applied to a particular context, see Box 1 on how TaRL is implemented in Botswana.)

- *Diagnostic assessment.* TaRL starts with a simple baseline assessment to understand each student's foundational reading and math skills. The assessment is designed to exactly reflect the programme's goals such that foundational skills determine the upper limit of the test (i.e., reading a story and performing two-digit subtraction with borrowing). In contrast to traditional exams, the assessments are administered orally to one child at a time, generating simple, instant feedback. By focusing solely on foundational literacy and numeracy, the assessment helps reorient students, instructors, and other stakeholders to the importance of these skills (see: TaRL Assessment Tools, n.d.; TaRL Webinar Series Session 2: Assessment, 2017).

- *Pedagogical practices.* The signature pedagogical technique associated with TaRL is to use the results from the initial assessment to group children by learning level, rather than the more customary age-grade grouping, for a part of the day. For example, most TaRL assessments include five reading levels—beginner, letter, word, paragraph, and story—which are used to sort students into groups. Each group then focuses on developing appropriate skills, and on quickly advancing children to the next skill level (Banerji and Chavan, 2016). TaRL instructional methods are guided by a number of principles, such as mixing individual and group work, emphasising interactive activities (classes are often held on the floor rather than in desks), praising students' achievements, and tackling the same problem with multiple skills (see: TaRL Reading Activities, n.d.; TaRL Mathematics Activities, n.d.).[12]

- *Instructional materials.* An important plank of Pratham's work in India has been developing materials appropriate to each child's level. For example, some Pratham programmes have developed booklets of stories set in local, familiar contexts and invented games using everyday materials like straws and rubber bands (Banerji & Chavan, 2016). Other TaRL programmes ask instructors to innovate their own teaching aids using low-cost, accessible materials that fit their learners' needs, or to peg activities to different learner levels, such as the use of a phonetic chart during the beginner and letter reading levels (see: TaRL Reading Activities, n.d.).

- *Formative assessment.* All TaRL approaches emphasise regular follow-up assessments for each student, which usually means readministering the same tool used during the initial diagnostic assessment. This allows instructors to track students' learning progress continuously, offer remediation for those who need additional help, and move students who are ready to the next group and skill level. It also allows instructors to recognise and draw motivation from their students' learning progress (Banerji and Chavan, 2016).

---

[12] Pratham's leaders offer this more technical characterisation: "Experts who have analysed Pratham's work in reading describe it a 'balanced' or 'mixed' approach that uses elements of both whole language and phonetic methods" (Banerji and Chavan, 2016). This video offers a glimpse into a TaRL classroom.

To model and reinforce its particular approach to instruction, TaRL stresses the importance of providing support to instructors (*Principle 3*) through mentors. Mentoring reinforces and supplements the initial induction training for TaRL instructors, which typically only lasts around 5 days. As in Tusome, the emphasis of mentoring is on in-person visits, classroom observation, and feedback from mentors. Also like Tusome, the mentoring is tightly focused on reinforcing the intended approach, which in the case of TaRL includes administering student assessments, grouping by level, doing level-wise activities, and using participatory pedagogies (see: TaRL Mentors, n.d.). So that mentors gain the practical insight to provide good feedback, Pratham recommends that they implement TaRL themselves for a minimum of 15 days (Banerji and Chavan, 2016). Sometimes mentors also collect monitoring information during their visits. Some TaRL programmes aggregate and analyse this information to target further support or make programme course corrections for the instructors, schools, or administrative units that most need it (see: TaRL Webinar Series Session 3: Monitoring and Mentoring, 2017).

TaRL has been successfully adapted to very different contexts in part because of a willingness to experiment with different modes of implementation (*Principle 4)*. Developing both a civil society-led delivery model and a government-led model has allowed TaRL to scale opportunistically, first through grassroots efforts by Pratham, later through state-level partnerships in India, and now through a variety of government and non-government partners in Africa (World Bank, 2018). Each TaRL model has itself been evolved to meet the variations of context. This has been enabled in part through a longstanding research partnership between Pratham and the Abdul Latif Jameel Poverty Action Lab (J-PAL), which has helped evaluate different programme variants. For example, in studies of the government-led model, multiple findings pointed to the special measures needed to prevent civil service teachers from defaulting away from TaRL methods and back to their usual curriculum and habitual classroom practices (Banerjee et al., 2016; Banerjee et al., 2017). These studies highlighted the importance of a dedicated instructional period for TaRL during school hours, along with robust top-down mentoring, both of which are now emphasised in the government-led model (Banerjee et al., 2016; Banerjee et al., 2017).

Bringing the cases together

In each of these three cases, the ALIGNS principles are applied through a coherent strategy, rather than in a piecemeal fashion. In Tanzania, the teacher training (*Principle 3*) was coherent with the reform's goals around concentrating on the 3Rs (*Principle 1*), leading to larger learning gains. In Kenya, Tusome's architects employed "conscious bureaucratic and technical coordination to ensure a fit between all the components" (Crouch, 2020, p. 31). Pedagogy, materials, and the sequenced lesson plans were tightly synced with each other (internal coherence in aligning instructional components for learning progress under *Principle 2)*, and these were further aligned with frequent coaching on how to employ the new pedagogy, materials, and lesson plans (*Principle 3*). Similarly, TaRL's research with JPAL emphasises that the approach is "holistic": any single component— assessments, level-appropriate instructional materials, or training and coaching—on its own has little or no impact (Banerji and Chavan, 2016). The most effective programmes both embody the individual ALIGNS principles and align them to reinforce each other.

> ***Box 2:* Assessments to measure foundational skills**
>
> In any context with low learning levels, assessments of foundational skills are integral tools for motivating and implementing ALIGNS approaches. As reflected in the cases above, they can be used for either diagnostic or formative purposes.
>
> Diagnostic assessments are used to understand students' current learning levels, and can be particularly useful at the beginning of a programme. Sometimes a diagnostic assessment jumpstarts an ALIGNS approach, as in the Tanzania 3Rs case in Section III. In this context, assessment results yielded a systemwide snapshot of low learning levels and served as a catalyst for setting learning goals and other systemic reforms. Diagnostic assessments are also used to align instruction to children's learning at a more fine-grained level. The TaRL approaches described in Section III use a diagnostic assessment at the beginning of each programme to group children according to their prior mastery of foundational skills.
>
> Formative assessments of foundational skills are a powerful tool for aligning instruction with children's learning levels on an ongoing basis: they provide feedback on children's learning gains and enable continuous

recalibration of instruction to children's current learning levels. For example, in the TaRL approaches described in Section III, formative assessments are used to continually assess children's learning progress and to determine when to move on to new skills. Additionally, formative assessment can provide an effective form of retrieval practice for students (i.e., actively recalling previously learned knowledge)[13] which can improve the retention and flexibility of prior knowledge (Dunlosky et al., 2013). That said, while formative assessments are desirable, they do not appear in all ALIGNS approaches. Conducting accurate and efficient formative assessments can be a technically demanding task, and equipping teachers at scale to conduct such assessments can be resource-intensive, meaning such assessments may not be feasible or appropriate in all contexts.

We discuss three illustrative examples of assessments of foundational skills below. These examples are meant to showcase the variety of existing assessments; they are by no means exhaustive. At least two other international assessments of foundational skills exist—EGMA and UNICEF's Multiple Indicator Cluster Survey (MICS)—and national and subnational assessments have been developed by particular countries or programmes, such as the Comprehensive Reading and Mathematics Assessment Tool (CERMAT) in Indonesia (Rarasati et al., 2020).

Early Grade Reading Assessment (EGRA): EGRA, developed in 2006 by RTI, USAID, and the World Bank, assesses a number of foundational language and literacy skills. It is purposefully designed as a framework that can be tailored to context (Gove & Wetterberg, 2011). Depending on the number of subtasks tested, it can take between 10–20 minutes per child. It has been adapted in 65 countries and 100 languages. EGRA has predominantly been used as a diagnostic tool to measure the progress of an entire education system or programme (Dubeck and Gove, 2015). Both Tanzania and Kenya used EGRA to diagnose a systemic underdevelopment of foundational skills, contributing to the impetus for the 3Rs and Tusome reforms, respectively (as discussed in Section III). However, EGRA has also been modified for formative use in the classroom. The EGRA Plus project in Liberia trained teachers and coaches to regularly administer different versions of EGRA in 180 project schools. The results were used for multiple purposes, such as undertaking frequent checks on individual student progress that informed daily reading instruction, creating report cards for parents, and identifying teachers' professional development needs (Davidson et al., 2011).

Citizen-Led Assessments (CLAs): These assessments, beginning with ASER in 2005, are often associated with the TaRL approach. Like TaRL, they have a single-minded focus on foundational reading and math skills. They are conducted in households in order to reach out-of-school children, and are administered orally to one child at a time to ensure that children who cannot yet read are nonetheless assessed accurately and represented proportionately in these surveys. CLAs have spread to 14 countries across Africa, Asia, and Latin America under the aegis of the People's Action for Learning (PAL) Network, and different member organizations have employed the results to pursue different educational reform goals (Alcott et al., 2020). In many countries, CLAs have been conducted at scale using nationally representative samples to diagnose the learning crisis and advocate for systemic change. In other contexts, the simplicity and speed of CLAs has allowed them to act as templates for the formative assessments used in many TaRL classrooms around the world.

In 2020, the CLA movement and the PAL Network released their first internationally comparable assessment, the International Common Assessment of Numeracy (ICAN). ICAN seeks to provide a common metric to measure cross-country progress against SDG 4.1.1, which calls for monitoring the percentage of Grade 2 and 3 students who have acquired foundational skills in reading and math. Thus far, ICAN has been piloted in 13 low- and middle-income countries to test its comparability across systems. Furthermore, as the Director of the UNESCO Institute for Statistics (UIS) recognised in her foreword to ICAN's launch report, there is the potential to adapt ICAN in the future for formative assessment and to create continuous feedback loops within

---

[13] For an infographic summarising the direct and indirect roles of retrieval practice in learning, see https://www.learningscientists.org/blog/2016/4/1-1.

classrooms, schools, and districts (PAL Network, 2020).

Funda Wande's programmatic assessments: Funda Wande is a South African nonprofit dedicated to ensuring that all students in the country can "read for meaning" and "calculate with confidence" by Grade 3, in the words of the organisation's vision. It does this by developing open-source teacher training and instructional materials—in both video and print—to support teachers in the early grades of primary school. Assessing foundational skills is an essential element of Funda Wande's training, but the emphasis is on informal, formative assessment that is tightly integrated into lessons. For example, the training book and videos on guided reading groups offer a number of model questions to intersperse into the read-aloud that check the depth of students' understanding. These questions are then organised into a rubric that helps teachers to record post-lesson observations about each student, to look for patterns in individual student progress, and to tailor instruction accordingly. The training explicitly acknowledges the informality of the assessment, and clarifies that the goal is not to probe every student on every skill during every lesson, but rather to build-up a source of formative feedback over time (Funda Wande, 2020).

IV. Conclusion

In the education systems of many developing countries, there is a wide gap between what students know and can do, and what they are taught in school. This inhibits learning and widens learning inequities. Multiple policies and programmes have recognised this problem and pioneered approaches that have successfully improved learning at scale. However, the common patterns that underly these varied approaches, and characterise their success, is rarely made explicit. The intended contribution of this Insight Note is to identify four common principles that emerge from the different successful approaches.

Policies and programmes that we group together as "ALIGNS approaches" set clear learning goals based on children's current learning levels; realign the components of instruction to be coherent with students' learning levels and the learning progress they are meant to achieve; provide regular support to teachers to reinforce the targeted changes to instruction; and are implemented in a way that addresses the opportunities and constraints of the context. This broad set of principles does not point to a single model programme or set of best practices. Rather, the principles are compatible with a range of programme variants, some of which are articulated in Table 1.

The success of these programmes suggests that applying these principles as part of a coherent strategy can be a key component to improving children's learning achievement. Some of these approaches have achieved big learning gains even in short spans of time. Pratham's short burst "learning camps," which provide about 50 days of TaRL instruction, have had large effects on children's literacy. Large gains are possible, and low learning levels are not inevitable. Cultivating children's foundational literacy and numeracy skills by the middle primary grades is an immeasurably valuable goal—and, as these ALIGNS approaches show, an achievable one.

Table 1: Illustrative ALIGNS Programmes and design features across which they vary

Approach	Country	Content	Students	Scheduling	Technology	Instructors	Coaches
Alphabetisation at the Right Age	Sobral, Brazil (a municipality with 56 schools)	Foundational literacy (phonics-based approach with a focus on fluency, accuracy, prosody, and then comprehension in the later grades)	Grades 1–2, with remediation for students in Grades 2–6 who still could not read	During normal lessons, with 15-minute blocks of activities specified for 4 hours per day, 200 days per year	Low tech	Government teachers	Pedagogical coordinators based in each school
Asistencia, Permanencia, Aprendizaje (Attendance, Completion, and Learning) Model	Puebla, Mexico (a state with 14,000 schools)	Foundational literacy (in Spanish) and numeracy by Grade 2. In the higher grades, the program targeted the lowest level of proficiency on national standardized tests at the end of primary, lower secondary, and upper secondary.	600 lowest performing schools (based on learning, not poverty). All grade levels, including preschool, were targeted.	During normal lessons (according to the amount of time needed to finish prescribed workbooks) and additional remedial summer course for those who could not read	Low tech	Government teachers	No formal coaching, but efforts to recruit high quality training facilitators and conduct small face-to-face trainings with no more than 25 teachers
Complementary basic education	Ghana (*Note: Similar accelerated learning programmes for out-of-school children are also conducted elsewhere.*)	Foundational literacy and numeracy in mother-tongue languages	Small classes of out-of-school-children ages 8–14	Flexible hours (to avoid conflict with other responsibilities) over 9 months	Low tech	Community volunteers, coordinated through local nonprofits	Unknown
Curriculum for Basic Education "3Rs" reform	Tanzania	Whole curriculum (increased instructional time for Kiswahili and Math, eliminated English and other subjects)	Grades 1–2	During normal lessons	Low tech	Government teachers	No formal coaching in schools

Approach	Country	Content	Students	Scheduling	Technology	Instructors	Coaches
Escuela Nueva	Originally in Colombia; subsequently adapted in Brazil, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Mexico, Panama, Peru, Dominican Republic, East Timor, India, Vietnam.	Basic skills in literacy, math, science and social studies (following the national curriculum)	Groups by level, mostly in rural multigrade primary schools	During normal lessons	Low tech	Mostly government teachers	Peer mentoring through local teacher networks called microcenters
Funda Wande	South Africa	Foundational literacy (in isiXhosa and Sepedi) and numeracy	Grades 1–3 in participating schools, with some flexible groupings within classrooms	During normal lessons	Hybrid. Low tech instructional materials, and digital training materials for teachers (accessed online or through a preloaded flash drive)	Government teachers	Government officials and Funda Wande support staff
Mindspark computer-adaptive software	India	Math, Hindi, English	Individual students (or pairs of students sharing a device) in Grades 6–9	Used in a variety of ways and settings, e.g. during designated timetable periods in government schools, in private after-school learning centres, and individual households.	High tech. The software has a bank of 45,000 practice questions; differentiates instruction and assessments to the level of the individual student user; and includes games, videos, and activities.	Software. (When used in learning centres, there is a combination of individual time with the software and instructor-led small group work.)	None

Approach	Country	Content	Students	Scheduling	Technology	Instructors	Coaches
PEARL Early Grade Reading Programs	Tonga, Kiribati Tuvalu	Foundational literacy	Grades 1–2	During normal lessons	Low tech	Government teachers	Ministry and District-level officials (with 7 teachers per coach in Tonga)
Room to Read Literacy Program	Rwanda, Tanzania, Zambia, South Africa, Jordan, India, Nepal, Sri Lanka, Bangladesh, Myanmar, Laos, Cambodia, Vietnam, Indonesia	Foundational literacy (in the official medium of instruction)	Grades 1–2	Mostly during normal lessons	Low tech	Mostly government teachers	Room to Read literacy facilitators
TaRL government partnerships (led by government teachers)	Haryana, India. Similar partnerships have been formed in Botswana, Cote d'Ivoire, Ghana, Nigeria, and Zambia.	Foundational literacy (in Hindi)	Groups by level for Grades 3–5	1 dedicated hour per day during the school day	Low tech	Government teachers	Government officials responsible for 12–15 schools

Approach	Country	Content	Students	Scheduling	Technology	Instructors	Coaches
TaRL learning camps (led by volunteers)	Uttar Pradesh, India. Similar learning camps have occurred in other Indian states (Pratham), in Botswana (Young 1ove), Kenya (G-United and ziziAfrique), Mozambique (Wichutha Nithuelaca), and Nigeria (TEP Centre).[15]	Foundational literacy (in Hindi) and numeracy	Groups by level for Grades 3–5	50 days total instruction, split into 'bursts' of 10 consecutive days with 2–3 hours of instruction per day. 4 bursts took place in school during the school day, with an additional burst over the summer break.	Low tech	Local volunteers	Pratham staff
Tusome	Kenya	Foundational literacy (in Kiswahili and English)	Grades 1–3	During normal 30-minute Kiswahili and English lessons	Hybrid. Inexpensive instructional materials for teachers and students, but tablets for coaches which fed into a county and national level dashboard.	Government teachers	Government officials responsible for around 20 schools

Source: Authors' synthesis.

---

[15] There are hybrid programmes that combine elements of both the learning camp and government partnership models in Niger, Madagascar, and Uganda. These deploy both volunteer and government staff in novel ways.

For further reading

For those interested in a deeper dive into a particular program and the reasons we have classified it within the family of ALIGNS approaches, we have compiled a shortlist of references for each.

Alphabetisation at the Right Age

*   Crouch, L. 2020. Systems Implications for Core Instructional Support Lessons from Sobral (Brazil), Puebla (Mexico), and Kenya. Research on Improving Systems of Education (RISE). https://doi.org/10.35489/BSG-RISE-RI_2020/020

Asistencia, Permanencia, Aprendizaje (Attendance, Completion, and Learning) Model

*   Crouch, L. 2020. Systems Implications for Core Instructional Support Lessons from Sobral (Brazil), Puebla (Mexico), and Kenya. Research on Improving Systems of Education (RISE). https://doi.org/10.35489/BSG-RISE-RI_2020/020

Curriculum for Basic Education "3Rs" Reform

*   Mbiti, I., & Rodriguez-Segura, D. (forthcoming). Evaluating Curriculum Reforms in Developing Countries: Evidence from Tanzania. RISE Working Paper Series.

*   Ministry of Education, Science and Technology. 2016. Curriculum for Basic Education Standard I and II.

Escuela Nueva

*   Colbert, V., & Arboleda, J. 2016. "Bringing a Student-Centered Participatory Pedagogy to Scale in Colombia." Journal of Educational Change 17 (4): 385–410. https://doi.org/10.1007/s10833-016-9283-7

*   Escuela Nueva's Evaluations. n.d. Accessed September 29, 2020. http://www.escuelanueva.org/portal1/en/who-we-are/escuela-nueva-activa-model/escuela-nueva-s-evaluations.html

Funda Wande

*   Ardington, C., & Meiring, T. 2020. "Impact Evaluation of Funda Wande Coaching Intervention Midline Findings." https://fundawande.org/img/cms/news/Impact%20Evaluation%20of%20Funda%20Wande%20Coaching%20Intervention%20Midline%20Findings.pdf.

*   Funda Wande. 2020. "Our Resources." (2020). http://fundawande.org/learning-resources.

Ghana's complementary basic education

*   Akyeampong, K., Higgins, S., Sabates, R., Rose, P., & Carter, E. 2019. Understanding Complementary Basic Education in Ghana - Final Impact Evaluation. Crown Copyright: Department for International Development. Report published by DFID under Development Tracker for Ghana Complementary Basic Education. https://www.educ.cam.ac.uk/centres/real/researchthemes/teachingandlearning/improvingeducation/

*   Sabates, R. 2018. Moving beyond aid in education: The case of the complimentary basic education programme in Ghana. RISE Programme (blog). https://riseprogramme.org/blog/beyond_aid.

*   For examples of accelerated learning programmes in other countries, see: Longden, K. 2013. Accelerated learning programmes: What can we learn from them about curriculum reform? UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000225950

Mindspark

*   Muralidharan, K., Singh, A., & Ganimian, A. 2019. "In Delhi Experiment, Software Sparks Success." RISE Programme (blog). https://riseprogramme.org/blog/delhi_experiment_sparks_success

- Muralidharan, K., Singh, A., & Ganimian, A. 2019. "Disrupting Education? Experimental Evidence on Technology-Aided Instruction in India." American Economic Review 109 (4): 1426–60. https://doi.org/10.1257/aer.20171112

- Muralidharan, K., & Singh, A. 2019. Improving Schooling Productivity through Computer-Aided Personalization: Experimental Evidence from Rajasthan [conference presentation]. RISE Conference 2019. https://www.youtube.com/watch?v=-IN3LSRU3xA&feature=youtu.be&t=4005

PEARL

- Macdonald, K., Brinkman, S., Jarvie, W., Machuca-Sierra, M., McDonall, K., Messaoud-Galusi, S., Tapueluelu, S., & Vu, B.T. 2018. "Intervening at Home and Then at School: A Randomized Evaluation of Two Approaches to Improve Early Educational Outcomes in Tonga." World Bank Policy Research Working Paper, 62. https://proxy.lingxiao.co/https/openknowledge.worldbank.org/handle/10986/31084.

- World Bank. 2019. "Implementing and Evaluating Interventions to Improve School Readiness and Early Literacy." World Bank. https://www.globalpartnership.org/content/pacific-islands-pacific-early-age-readiness-and-learning-pearl-operational-guide-june-2019.

Room to Read

- Alexander, J., Kwauk, C., & Robinson, J.P. 2016. "Room to Read: Scaling up Literacy Through Localized Solutions Across Asia and Africa." Brookings Center for Universal Education. https://www.brookings.edu/wp-content/uploads/2016/07/FINAL-Room-to-Read-Case-Study.pdf.

- Joddar, P. 2018. "Impact Evaluation of the Literacy Program: Partnership Approach under Scaling up Early Reading Intervention (SERI) Funded by USAID." https://www.roomtoread.org/media/p3nhkbhi/2018-india-litearcy-impact-eval-of-hindi-schools-under-seri-partnership-approach-endline-report.pdf.

- Room to Read. 2019. "Impact and Reach." 2019. https://www.roomtoread.org/impact-and-reach/.

TaRL

- Banerjee, A., Cole S., and Duflo, E. 2007. Remedying Education: Evidence from Two Randomized Experiments in India. The Quarterly Journal of Economics 122 (3): 1235-1264. https://doi.org/10.1162/qjec.122.3.1235

- Banerjee, A., Banerji, R., Berry, J., Duflo, E., Kannan, H., Mukherji, S., Shotland, M., and Walton, M. 2016. "Mainstreaming an Effective Intervention: Evidence from Randomized Evaluations of 'Teaching at the Right Level' in India." Working Paper 22746. Working Paper Series. National Bureau of Economic Research. https://doi.org/10.3386/w22746

- Banerjee, A., Banerji, R., Berry, J., Duflo, E., Kannan, H., Mukherji, S., Shotland, M., & Walton, M. 2017. From proof of concept to scalable policies: challenges and solutions, with an application. Journal of Economic Perspectives 31 (4): 73–102. https://doi.org/10.1257/jep.31.4.73

- Banerji, R., & Chavan, M. 2016. Improving literacy and math instruction at scale in India's primary schools: The case of Pratham's Read India program. Journal of Educational Change, 17(4), 453–475. https://doi.org/10.1007/s10833-016-9285-5

- Teaching at the Right Level. 2020. Teaching At the Right Level [official website]. https://www.teachingattherightlevel.org/

- *For adaptations of Young 1ove's TaRL approach to use of SMS text messages and phone calls during COVID-19 school closures in Botswana, see:* Angrist, N., Bergman, P., Brewster, C, and Matsheng, M. 2020. Stemming Learning Loss During the Pandemic: A Rapid Randomized Trial of a Low-Tech Intervention in Botswana. CSAE Working Paper Series 2020-13. Centre for the Study of African Economies, University of Oxford. https://www.csae.ox.ac.uk/materials/papers/csae-wps-2020-13.pdf and Angrist, N., Bergman, P., Evans. D. K., Hares, S., Jukes, M. C. H., & Letsomo, T. 2020. Practical lessons for phone-based assessments of learning. BMJ Global Health, 5:e003030. https://gh.bmj.com/content/5/7/e003030

Tusome

- Piper, B., Destefano, J., Kinyanjui, E. M., & Ong'ele, S. 2018. Scaling up successfully: Lessons from Kenya's Tusome national literacy program. Journal of Educational Change, 19(3), 293–321. https://doi.org/10.1007/s10833-018-9325-4

- Crouch, L. 2020. Systems Implications for Core Instructional Support Lessons from Sobral (Brazil), Puebla (Mexico), and Kenya. Research on Improving Systems of Education (RISE). https://doi.org/10.35489/BSG-RISE-RI_2020/020

References

Abadzi, H. 2013. Education for All in Low-Income Countries: A Crucial Role for Cognitive Scientists. Journal of Education, Society and Behavioural Science, 436–455. https://doi.org/10.9734/BJESBS/2013/4311

Abadzi, H. 2020. Skills to Stay: Memory functions in 21st-century education. Cambridge Partnership for Education Insight. Cambridge University Press. https://www.cambridge.org/files/8215/9860/7008/Abadzi_CambridgeER_ Memory_Functions_WEB.pdf

Alcott, B., Rose, P., Sabates, R. and Ellison, C. 2020. From Assessment to Action: Lessons from the Development of Theories of Change with the People's Action Learning Network. Global Education Review, 7 (1). 6-19.

ASER Centre. 2018. Annual Status of Education Report (Rural) 2017: Beyond Basics. http://www.asercentre.org/ Keywords/p/315.html

Atuhurra, J. and Kaffenberger, M. forthcoming. System (In)Coherence: Quantifying the Alignment of Primary Education Curriculum Standards, Examinations, and Instruction in Two East African Countries. RISE Working Paper Series.

Banerjee, A., Banerji, R., Berry, J., Duflo, E., Kannan, H., Mukherji, S., Shotland, M., and Walton, M. 2016. Mainstreaming an Effective Intervention: Evidence from Randomized Evaluations of "Teaching at the Right Level" in India (Working Paper No. 22746; Working Paper Series). National Bureau of Economic Research. https://doi. org/10.3386/w22746

Banerjee, A., Banerji, R., Berry, J., Duflo, E., Kannan, H., Mukherji, S., Shotland, M., and Walton, M. 2017. From proof of concept to scalable policies: challenges and solutions, with an application. Journal of Economic Perspectives 31 (4): 73–102. https://doi.org/10.1257/jep.31.4.73

Banerji, R. and Chavan, M. 2016. Improving literacy and math instruction at scale in India's primary schools: The case of Pratham's Read India program. Journal of Educational Change, 17(4), 453–475. https://doi.org/10.1007/s10833-016-9285-5

Belafi, C., Hwa, Y-Y. and Kaffenberger, M. 2020. Building on Solid Foundations: Prioritising Universal, Early, Conceptual and Procedural Mastery of Foundational Skills. RISE Insight Series. 2020/021. https://doi.org/10.35489/ BSG-RISE-RI_2020/021

Bloom, B. S. 1984. The 2 Sigma Problem: The Search for Methods of Group Instruction as Effective as One-to-One Tutoring. Educational Researcher, 13(6), 4–16. https://doi.org/10.3102/0013189X013006004

Burdett, N. 2017. Review of High Stakes Examination Instruments in Primary and Secondary School in Developing Countries. RISE Working Paper Series. 17018. https://doi.org/10.35489/BSG-RISE-WP_2017/018

Chaiklin, S. 2003. The zone of proximal development in Vygotsky's analysis of learning and instruction. In A. Kozulin, B. Gindis, V. Ageyev, & S. Miller (Eds.), Vygotsky's educational theory in cultural context (pp. 39–64). Cambridge University Press.

Crouch, L. 2020. Eliminating global learning poverty: The importance of equalities and equity. International Journal of Educational Development, in press, 102250.

Crouch, L. 2020. Systems Implications for Core Instructional Support Lessons from Sobral (Brazil), Puebla (Mexico), and Kenya. Research on Improving Systems of Education (RISE). https://doi.org/10.35489/BSG-RISE-RI_2020/020

Crouch, L. and Rolleston, C. 2017. Raising the Floor on Learning Levels: Equitable Improvement Starts with the Tail. RISE Insight. https://doi.org/10.35489/BSG-RISE-RI_2017/004

Davidson, M., Ollie White, C., and Medina, K. 2011. Teachers' Use of EGRA for Continuous Assessment: The Case of EGRA Plus: Liberia. Edited by Amber Gove and Anna Wetterberg. In The Early Grade Reading Assessment: Applications and Interventions to Improve Basic Literacy (1st ed.). RTI Press. https://doi.org/10.3768/rtipress.2011. bk.0007.1109

Dubeck, M. M. and Gove, A. 2015. The early grade reading assessment (EGRA): Its theoretical foundation, purpose, and limitations. International Journal of Educational Development, 40, 315–322. https://doi.org/10.1016/j.ijedudev.2014.11.004

Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J. and Willingham, D. T. 2013. Improving Students' Learning With Effective Learning Techniques: Promising Directions From Cognitive and Educational Psychology. Psychological Science in the Public Interest, 14(1), 4–58. https://doi.org/10.1177/1529100612453266

Education Endowment Foundation. 2018. Mastery learning: technical appendix. Teaching & Learning Toolkit. https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/mastery-learning/technical-appendix/

Ericsson, K., Krampe, R. and Tesch-Römer, C. 1993. The Role of Deliberate Practice in the Acquisition of Expert Performance. Psychological Review, 100(3), 363–406. https://doi.org/10.1037/0033-295X.100.3.363

Freudenberger, E., and Davis, J. 2017. Tusome external evaluation—Midline report. MSI, A Tetra Tech Company, Washington, DC. https://pdf.usaid.gov/pdf_docs/PA00MS6J.pdf

Funda Wande. 2020. Reading Academy: Booklet 4. https://fundawande.org/learning-resources

Gordon, R. Marston, L., Rose, P. and Zubairi, A. 2019. 12 Years of Quality Education for All Girls: A Commonwealth Perspective. REAL Centre. University of Cambridge. https://doi.org/10.5281/zenodo.2542579

Gove, A. K. and Wetterberg, A. 2011. The Early Grade Reading Assessment: An Introduction. In A. K. Gove & A. Wetterberg (Eds.), The early grade reading assessment: Applications and interventions to improve basic literacy (pp. 1–37). RTI Press.

Government of Tanzania. 2015. Big Results Now! Annual Report 2013/14. Presidential Delivery Bureau.

J-PAL (Abdul Latif Jameel Poverty Action Lab). 2019. Tailoring instruction to students' learning levels to increase learning. J-PAL Policy Insight. https://doi.org/10.31485/pi.2522.2019

Jerrim, J. and Vignoles, A. 2016. The link between East Asian 'mastery' teaching methods and English children's mathematics skills. Economics of Education Review, 50, 29–44. https://doi.org/10.1016/j.econedurev.2015.11.003

Kaffenberger, M. and Pritchett, L. 2020. Aiming higher: Learning profiles and gender equality in 10 low- and middle-income countries. International Journal of Educational Development, 79(102272). https://www.sciencedirect.com/science/article/pii/S0738059320304314

Kaffenberger, M. and Pritchett, L. 2020. Failing to Plan? Estimating the Impact of Achieving Schooling Goals on Cohort Learning. RISE Working Paper Series. 20/038. https://doi.org/10.35489/BSG-RISE-WP_2020/038

Kirschner, P. A., Sweller, J., and Clark, R. E. 2006. Why Minimal Guidance During Instruction Does Not Work: An Analysis of the Failure of Constructivist, Discovery, Problem-Based, Experiential, and Inquiry-Based Teaching. Educational Psychologist, 41(2), 75–86. https://doi.org/10.1207/s15326985ep4102_1

Kulik, C.-L. C., Kulik, J. A. and Bangert-Drowns, R. L. 1990. Effectiveness of Mastery Learning Programs: A Meta-Analysis. Review of Educational Research, 60(2), 265–299. https://doi.org/10.3102/00346543060002265

Mbiti, I., and Rodriguez-Segura, D. forthcoming. Evaluating Curriculum Reforms in Developing Countries: Evidence from Tanzania. RISE Working Paper Series.

Ministry of Education, Science and Technology, Tanzania. 2016. Curriculum for Basic Education Standard I and II.

Muralidharan, K., and Singh, A. forthcoming. Improving Schooling Productivity through Computer-Aided Personalization: Experimental Evidence from Rajasthan. RISE Working Paper Series.

National Academies of Sciences, Engineering, and Medicine. 2018. How People Learn II: Learners, Contexts, and Cultures. National Academies Press. https://doi.org/10.17226/24783

PAL Network. 2020. ICAN: International Common Assessment of Numeracy. Background, Features and Large-scale Implementation. Nairobi: People's Action for Learning Network.

Patel, D. and Sandefur, J. 2020. A Rosetta Stone for Human Capital. CGD Working Paper 550. Washington, DC: Center for Global Development. https://www.cgdev.org/publication/rosetta-stone-human-capital

Piper, B., Destefano, J., Kinyanjui, E. M. and Ong'ele, S. 2018. Scaling up successfully: Lessons from Kenya's Tusome national literacy program. Journal of Educational Change, 19(3), 293–321. https://doi.org/10.1007/s10833-018-9325-4

Popova, A., Evans, D. K. and Arancibia, V. 2016. Training Teachers on the Job: What Works and How to Measure It. World Bank Policy Research Working Papers. No. 7834. https://openknowledge.worldbank.org/handle/10986/25150

Pratham Resource Center. 2005. Annual Status of Education Report (Rural).

Pritchett, L. 2017. The Evidence About What Works in Education: Graphs to Illustrate External Validity and Construct Validity. Research on Improving Systems of Education (RISE). https://doi.org/10.35489/BSG-RISE-RI_2017/002

Pritchett, L., and Beatty, A. 2012. The Negative Consequences of Overambitious Curricula in Developing Countries (SSRN Scholarly Paper ID 2102726). Social Science Research Network. https://papers.ssrn.com/abstract=2102726

Pritchett, L. and Sandefur, J. 2020. Girls' schooling and women's literacy: schooling targets alone won't reach learning goals. International Journal of Educational Development, 78(102242). https://www.sciencedirect.com/science/article/pii/S0738059320304016

Rarasati, N., Dharmawan, G., Swarnata, A., Zulfa, A. H. and Lim, D. 2020. Comprehensive Reading and Mathematics Assessment Tool (CERMAT) (p. 66) [SMERU Technical Report]. The SMERU Research Institute.

Rodriguez-Segura, D., Campton, C., Crouch, L. and Slade, T. 2020. Learning inequalities in developing countries: evidence from early literacy levels and changes. Unpublished manuscript submitted for publication to the International Journal of Educational Development.

Schneider, B.R., Estarellas, P.C. and Bruns, B. 2018. The Politics of Transforming Education in Ecuador: Confrontation and Continuity, 2006-17. 2018. RISE Working Paper Series. 18/021. https://doi.org/10.35489/BSG-RISE-WP_2018/021

Sweller, J. 2010. Element Interactivity and Intrinsic, Extraneous, and Germane Cognitive Load. Educational Psychology Review, 22(2), 123–138. https://doi.org/10.1007/s10648-010-9128-5

Teaching at the Right Level. 2020. Teaching At the Right Level [official website]. https://www.teachingattherightlevel.org/

TaRL Assessment Tools. https://www.teachingattherightlevel.org/wp-content/uploads/2018/11/TaRL-Assessment-Tools.pdf

TaRL Mathematics Activities. https://www.teachingattherightlevel.org/wp-content/uploads/2018/09/Mathematics-Activities.pdf

TaRL Mentors. https://www.teachingattherightlevel.org/wp-content/uploads/2018/09/TaRL-Mentors.pdf

TaRL Reading Activities. https://www.teachingattherightlevel.org/wp-content/uploads/2018/10/Reading-Activities.pdf

TaRL Webinar Series Session 2: Assessment. 2017. https://www.povertyactionlab.org/sites/default/files/TaRL-Webinar-Session-2.pdf

TaRL Webinar Series Session 3: Mentoring and Monitoring. 2017. https://www.povertyactionlab.org/sites/default/files/TaRL-Webinar-Session-3.pdf

Todd, R. and Attfield, I. 2017. Big Results Now! In Tanzanian education: Has the Delivery Approach Enabled Teachers & Delivered Learning? 41.

Tomlinson, C. A., Brighton, C., Hertberg, H., Callahan, C. M., Moon, T. R., Brimijoin, K., Conover, L. A. and Reynolds, T. 2003. Differentiating Instruction in Response to Student Readiness, Interest, and Learning Profile in Academically Diverse Classrooms: A Review of Literature. Journal for the Education of the Gifted, 27(2–3), 119–145. https://doi.org/10.1177/016235320302700203 (Open-access version: https://files.eric.ed.gov/fulltext/EJ787917.pdf)

Uwezo. 2019. Are our Children Learning? Uwezo Uganda Eighth Learning Assessment Report. Twaweza East Africa. https://www.twaweza.org/go/uwezo-uganda-eighth-learning-assessment-report

Vygotsky, L. S. 1978. Mind in society: The development of higher psychological processes (M. Cole, V. John-Steiner, S. Scribner & E. Souberman., eds.) (A. R. Luria, M. Lopez-Morillas and M. Cole [with J. V. Wertsch], trans). Harvard University Press. (Original manuscripts [ca. 1930-1934])

Willingham, D. T. 2003. Ask the Cognitive Scientist: Students Remember...What They Think About. American Educator, Summer 2003. https://www.aft.org/periodical/american-educator/summer-2003/ask-cognitive-scientist-students-rememberwhat

Wood, D., Bruner, J. S. and Ross, G. 1976. The Role of Tutoring in Problem Solving. Journal of Child Psychology and Psychiatry, 17(2), 89–100. https://doi.org/10.1111/j.1469-7610.1976.tb00381.x

World Bank. 2018. World Development Report 2018: Learning to Realize Education's Promise. Washington, DC: World Bank.

World Bank. 2019. Ending Learning Poverty: What Will It Take? https://openknowledge.worldbank.org/handle/10986/32553

Yue-Yi Hwa is a Research Fellow for the RISE Programme at the Blavatnik School of Government, focusing on teachers and management. She received her PhD from the University of Cambridge. Her thesis looks at the relationship between teacher accountability policy and sociocultural context across countries, using secondary survey data on education and culture alongside interviews with teachers in Finland and Singapore. Previously, Yue-Yi taught secondary school English for two years through Teach For Malaysia, and was a research fellow for the Penang Institute in Kuala Lumpur. She has also conducted research for the World Bank's MENA education team. She holds a master's degree in comparative government from the University of Oxford.

Michelle Kaffenberger is a Research Fellow with the RISE Programme and affiliated to the Blavatnik School of Government at the University of Oxford. She researches education systems and learning outcomes. Previously, she was a Senior Research Advisor with the World Bank, focusing on financial inclusion, social protection systems, and international education. She has designed, led, or advised on dozens of quantitative, qualitative, and mixed methods empirical research studies. Michelle has also served as research adviser and consultant to the Bill & Melinda Gates Foundation, the United Nations, the Asian Development Bank, and a variety of private sector and nonprofit organisations. Previously she was research manager and lead analyst at InterMedia, an international development research organisation. She began her career establishing a new base of operations for an international nonprofit in Darjeeling, India.

Jason Silberstein is a Research Fellow for RISE at the Blavatnik School of Government. His research explores the relationship between schools and the communities they serve. Before joining RISE, he worked as a consultant to the governments of Ethiopia and Ghana on reforms aimed at strengthening accountability in their education systems, and spent 18 months as a policy advisor in the Myanmar Ministry of Education. His understanding of international development was shaped by 3 years at Seva Mandir, a grassroots nonprofit in India. His first job was as a secondary school English literature teacher. Jason holds a Masters in Public Administration in International Development (MPA/ID) from the Harvard Kennedy School.

Please contact info@riseprogramme.org for additional information, or visit www.riseprogramme.org.

RISE is funded by: