

# TaRL Africa Learning Agenda

December 2019



## **Table of Contents**

<b>Introduction</b>	<b>3</b>
How Can We Adapt While Staying Evidence-Based?	4
Continuum of Learning	4
<b>What Do We Hope to Learn for Africa?</b>	<b>5</b>
Theme 1: Teaching Learning	6
Language of Instruction	6
Classroom Management	8
Level-Based Grouping	9
Beyond Grades 3-5	10
Models and Delivery Design	12
Theme 2. Teacher Support	17
Teacher Training	17
Mentor Training	18
Mentoring Support	19
Data Flow, Understanding, and Action	20
Theme 3. Impact and Sustainability Questions	23
Long-Term Impact of TaRL	23
Government Sustainability	24
<b>Conclusion</b>	<b>27</b>

# Introduction

Teaching at the Right Level (TaRL), an approach pioneered by the Indian NGO Pratham, helps children quickly gain basic reading and math skills. The approach works by dividing middle-primary children (generally in grades 3 to 5) into groups based on learning levels rather than age or grade, dedicating time to basic skills rather than focusing solely on the curriculum, and regularly assessing student performance. Since 2001, J-PAL-affiliated professors have rigorously tested the theory of change underlying Pratham's TaRL approach. Through six randomized evaluations in India, as well as a growing body of research in Africa, they find that learning outcomes improve when TaRL is successfully implemented.<sup>1</sup>

At least ten countries in Africa are now trying their own versions of TaRL. Some of these interventions are still on a small scale (in dozens of schools), while others are starting to move toward a much larger scale. In Zambia, the government is currently running the approach in 1,114 schools, with plans to grow to over 1,800 schools in 2020. Madagascar recently rolled out a model which integrated the TaRL approach with another mathematics approach to over 1,600 schools.

TaRL Africa is a newly formed team whose mission is to provide technical assistance to partners working to emulate the evidence-based TaRL approach. This team is currently a combination of staff from Pratham, the NGO that pioneered the TaRL approach, and the Abdul Latif Jameel Poverty Action Lab (J-PAL), a research organization that helped evaluate the approach in India. J-PAL's Africa team also has a long history of supporting policymakers in scaling up evidence-based solutions. The vision of this joint team is to support education systems across Africa to equip all children with basic reading and math skills. In five years, the team expects that TaRL will be active in at least 10 African countries, 3 million children will have directly benefited from a TaRL program, and more than a thousand leaders of practice<sup>2</sup> will be carrying forward the approach in their local context. This strong base will establish a platform for bolstering learning outcomes for all children in Africa.

The TaRL evidence base is strong, but there is still much to learn about how TaRL can best be adapted to local contexts, how the approach affects long-term learning outcomes, how it can be delivered less expensively and more sustainably at scale, and how governments can institutionalize the approach and formally integrate it into existing systems. One reason TaRL achieved success in India is Pratham's careful use of innovation and research to continually update the details of the approach. The team used a series of research methods including experience in schools, monitoring data, and randomized evaluations to determine the most cost-effective way to improve learning.

The goals of TaRL Africa's Learning Agenda are to focus our own process of improvement and to catalyze useful learning (and open sharing of these lessons) for all stakeholders involved in TaRL programs across the continent. This document shares the TaRL Africa team's current priorities for learning how to adapt and improve the approach at scale across the continent. The document also shares these ideas and remaining questions with other partners interested in the TaRL model. We hope that our partners will engage with the document to communicate their priorities, suggestions, and further questions. We envision this to be a continually evolving agenda for learning across many TaRL teams and partners.

---

<sup>1</sup> Banerjee, Abhijit, Rukmini Banerji, James Berry, Esther Duflo, Harini Kannan, Shobhini Mukherji, Marc Shotland, and Michael Walton. 2016. "Mainstreaming an effective intervention: Evidence from randomized evaluations of 'Teaching at the Right Level' in India." NBER Working Paper No. 22746. <https://www.nber.org/papers/w22746>.

<sup>2</sup> The team defines "leaders of practice" as people who have been trained in the TaRL approach, practiced the approach themselves by implementing it in the classroom, and who are bringing the approach to others through training, monitoring and mentoring them.

# How Can We Adapt While Staying Evidence-Based?

Informing policy decisions with evidence can help policymakers learn from past experience and improve future programming. Ignoring evidence could mean potentially repeating mistakes when lessons have already been learned and the data point to a better decision. And yet, how much can a proven intervention be changed until it no longer represents the original evidence-based idea? Of course, evidence-based programs need to be adapted to fit new contexts. A program designed for a population in India can't be exactly replicated in Botswana due to differences in class size, funding systems, languages, educational backgrounds, and more. We know that TaRL—when implemented well—works to improve learning outcomes, but we also know that it must be adapted to local contexts to be effective. But which adaptations increase the approach's ability to improve learning outcomes for students at scale or in entirely new contexts? Which adaptations decrease or negate this effectiveness? Which adaptations are the most cost-effective and able to be scaled by cash-strapped governments across the continent? These questions are much harder to answer.

The TaRL Africa team identified core principles of TaRL which we believe led it to be effective. We list these on the [TaRL website](#). Many of the previous RCTs did much to help discover the best designs to achieve these goals. For example, the Read India study found that the TaRL approach was effective in helping teachers when they receive strong mentoring support, but not when they were simply provided training and materials.<sup>3</sup> The [TCAI study in Ghana](#) found that extra time reviewing the regular curriculum had no impact on learning, while remedial education on foundational skills did improve outcomes. A study from Haryana found that teachers were able to significantly improve learning outcomes for children, but only when they had sufficient hours to work with students and when they received strong mentoring support.<sup>4</sup> The potential for TaRL to affect large-scale change for children's learning is clear. We now need to carefully dive into the details to adapt the approach appropriately to the diverse local contexts and to make the approach as effective, affordable, and sustainable as possible.

## Continuum of Learning

What do we mean by learning? We see learning arising from an ongoing continuum of methods throughout the entire process of designing, adapting, testing, implementing, and scaling TaRL in collaboration with a variety of stakeholders including both governments and independent researchers. We depict a simplified version of this model in Figure 1 below. We situate our learning approach along a continuum from process-based learning during program implementation on the left-hand side to rigorous evaluation frameworks on the right-hand side. The two are interconnected: for example, lessons from process monitoring could inform an impact evaluation, or vice versa. As shown in the graphic, similar methods might also be used at multiple points along the continuum.

The TaRL approach has learning at its core. Lessons from ongoing monitoring and response are located on the left-hand side of the continuum. At the classroom level, this means that teachers use a simple oral assessment to determine the current skill level of their students and then act immediately on these outcomes by grouping students and teaching them to their level. At the systems level, government officials use TaRL assessment data to understand how well teachers and schools are improving basic skills for all students. The approach also encourages government officials to meet regularly to discuss their findings and think creatively about how they will better support teachers in their respective regions.

---

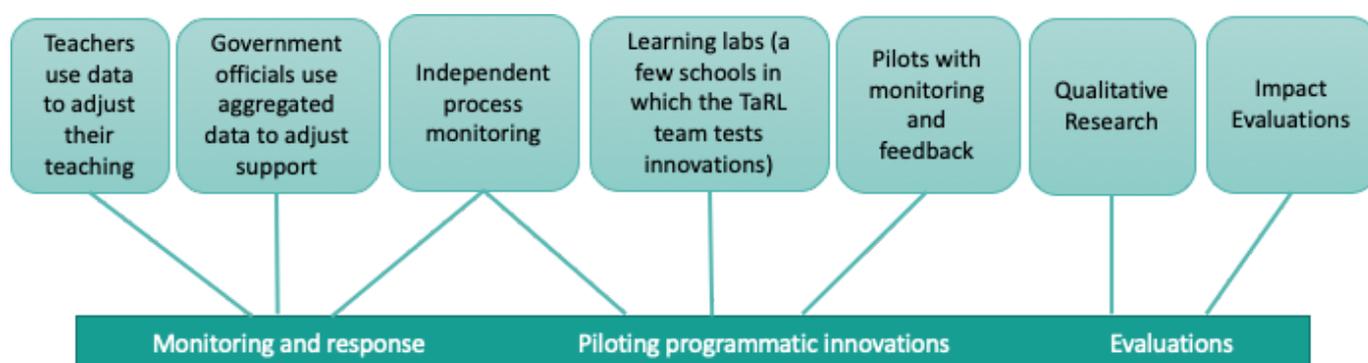
<sup>3</sup> Banerjee, Abhijit; Banerji, Rukmini; Duflo, Esther; Walton, Michael. June 2011. "What helps children to learn? Evaluation of Pratham's Read India program in Bihar & Uttarakhand." Available from: <https://www.povertyactionlab.org/sites/default/files/publications/Read%20India%2C%20What%20helps%20children%20to%20le arn.pdf>

<sup>4</sup> Banerjee, Abhijit, Rukmini Banerji, James Berry, Esther Duflo, Harini Kannan, Shobhini Mukherji, Marc Shotland, and Michael Walton. 2016. "Mainstreaming an effective intervention: Evidence from randomized evaluations of 'Teaching at the Right Level' in India." NBER Working Paper No. 22746. <https://www.nber.org/papers/w22746>.

Moving to the middle of the continuum, lessons that arise from piloting and testing new aspects or versions of the program itself are critical to long-term success in helping to improve learning for all children. This includes small-scale pilots of new design aspects before they are rolled out to full scale. It also includes learning labs, where TaRL staff can work closely with a smaller number of schools to deeply understand the issues facing teachers and students and to try out ideas for addressing these challenges. This middle section of the continuum blends innovation, process monitoring, and evaluation approaches for a rapid and iterative process of learning.

On the right-hand side of the continuum is rigorous research to evaluate the TaRL approach and estimate its longer-term outcomes. This includes qualitative research on how various education systems work, including mapping the strengths and disadvantages of prior approaches to improve learning outcomes in the relevant country. This research also includes new impact evaluations to rigorously measure the effect of the approach and test different models.

### TaRL Africa Learning Continuum



## What Do We Hope to Learn for Africa?

While a convincing body of evidence shows the impact that TaRL can have on improving learning outcomes, we recognize we have much to learn about how to even more efficiently and effectively improve learning outcomes at scale across contexts in Africa.

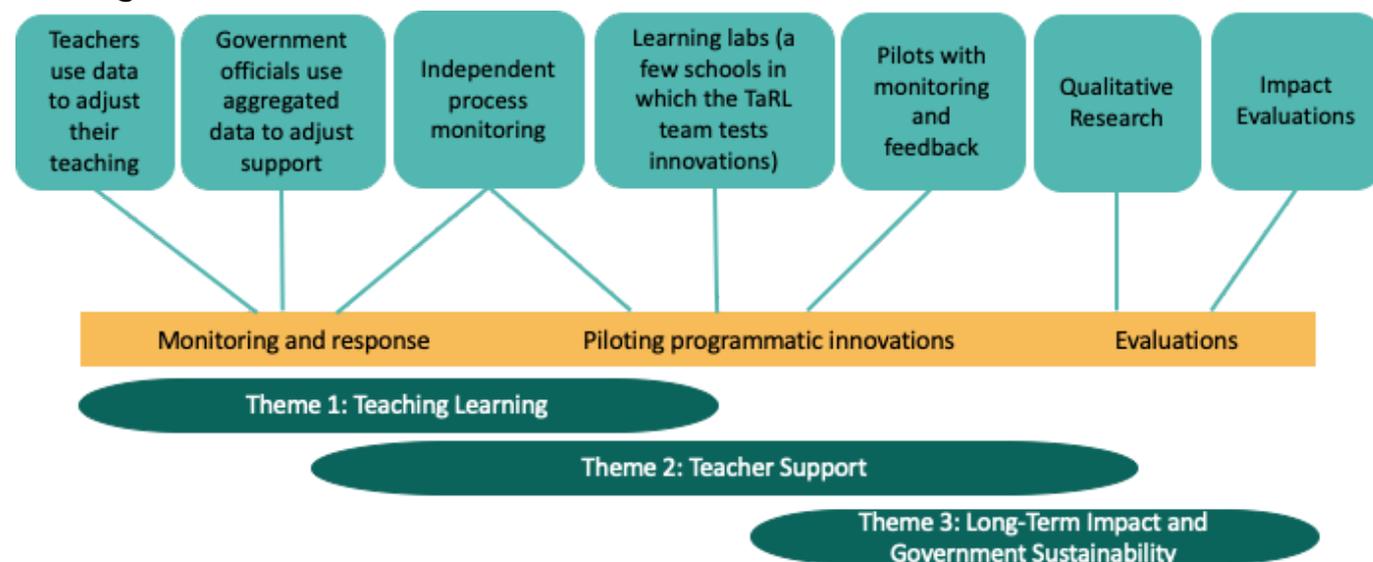
We group this learning into three themes:

1. Teaching learning, focusing on the approach at the classroom level
2. Support to teachers, including the training, mentoring, and monitoring systems which ensure teachers implement the classroom approach
3. Long-term impact and government sustainability

Within each of these themes, we highlight sub-topics of interest to the TaRL Africa team. This list of subtopics is not comprehensive; both the TaRL team and other partners will surely add to these topics in the future. Rather, the goal of this document is to highlight the priorities for learning as we see them now. We attempt to categorize the research questions into groups that will be studied within the next few years (priority questions) vs. ones that we hope to be able to study in the longer-term. We caveat that this is a stylized categorization to help guide the reader, rather than a strict delineation of priorities. As shown in the table below, these three themes roughly correlate with the continuum. Most of the monitoring and response tools on the left-hand side of the continuum will be helpful in learning about themes 1 and 2, as these themes focus on improving the

programmatic pieces of the approach. Piloting programmatic innovations and monitoring the response will be helpful for all three themes. Qualitative research and impact evaluations will likely add the most value to our understanding of the teacher support pieces, long-term impact and government sustainability. It is possible to use a variety of topics across all three themes.

### Learning Themes and Possible Tools



## Theme 1: Teaching Learning

TaRL’s success rests entirely on what happens in the classroom. Ensuring this piece is as strong as possible is an urgent priority. TaRL tries to change the dynamic between teachers and students by empowering both the teacher and the student to view learning as an exciting, achievable goal. Our Learning Agenda focuses first and foremost on learning about and strengthening this dynamic.

### Language of Instruction

One pressing question for Africa is how TaRL can best assist children in learning different languages. Many countries include residents who speak a large variety of languages. These languages often differ structurally in terms of the length of words or the degree to which they can be learned phonetically. Sometimes, languages within regions are related and therefore may share many features. However, other languages may be entirely distinct, even if they are spoken nearby. Many school systems require children to learn the national language—a language to which children sometimes have little exposure before they encounter it in the schooling system. Many African countries have recently switched language policies, with many now using mother tongue languages in early primary school and switching later to a national language. However, challenges persist with this approach. Even within one classroom, mother tongues can vary. Moreover, teachers do not always speak the mother tongue of students they are assigned to teach. The language spoken and taught in the classroom may also differ from the national policy.<sup>5</sup> Given the large number of languages spoken in many countries, often, only a select few are recognized in the education system, meaning that even a move toward local languages leaves many children in classrooms where the language of instruction is unfamiliar.

<sup>5</sup> [https://www.unicef.org/esaro/UNICEF\(2016\)LanguageandLearning-FullReport\(SingleView\).pdf](https://www.unicef.org/esaro/UNICEF(2016)LanguageandLearning-FullReport(SingleView).pdf)

In India, TaRL has been traditionally delivered with the assistance of a child's mother tongue. The activities are designed to teach a language that is phonetic and well known by the students in oral contexts. Will TaRL work with languages unfamiliar to students (and, in some cases, to teachers)? Indian languages have many fewer "sight words" (words that do not clearly follow the languages' typical phonetic rules for pronunciation) than languages such as English or French. How can the approach be adjusted to languages that include many sight words? How can TaRL best be used to transition students who are fluent in their mother tongue to other languages that they will encounter in middle to upper primary school? To address these questions, the TaRL Africa team is planning a series of pilots and impact evaluations. This includes piloting TaRL lessons in English in India, where the model is already well developed. TaRL is currently being piloted in French in Côte d'Ivoire and Niger and in Portuguese in Mozambique.

In addition, the team would like to further understand how better foundations in reading in both mother tongue and second (or third) languages can influence future learning outcomes for children. Non-experimental research suggests that children's oral reading fluency may be correlated across languages; for example, a study in Kenya showed reading ability in a child's mother tongue to be correlated with ability to read in English, suggesting that providing children with the tools to "decode" words in one language may help them do so in other languages as well.<sup>6</sup> What is the best way to transition between local language and national languages? Can TaRL help in this transition? Can dual language approaches in which children learn both languages simultaneously help bridge this gap? How does a stronger foundation in one's mother tongue assist in future learning? A meta-analysis of experimental and quasi-experimental studies comparing dual/bilingual and English-only reading programs in the United States suggests that dual approaches that include both mother tongue and English reading strategies may be particularly effective.<sup>7</sup> How can TaRL build on this research and incorporate dual language strategies where appropriate?

#### Language of Instruction

##### Priority Questions:

- How can the TaRL approach be adjusted to languages that feature many sight words that cannot be learned phonetically?
- How can TaRL best be used to transition students who are fluent in their mother tongue to other languages that they will encounter in middle to upper primary school?
- Can dual language approaches in which children learn both languages simultaneously help bridge this gap?

##### Longer-term Questions:

- How can better foundations in reading in both mother tongue and second (or third) languages influence future learning outcomes for children?

## Classroom Management

Another ongoing challenge for African countries working to scale up the TaRL approach is large class sizes. Many countries have schools with more than 80 students per teacher. While a study from Kenya

<sup>6</sup> Piper, Benjamin and Emily Miksic. 2011. "Mother Tongue and Reading: Using Early Grade Reading Assessments to Investigate Language-of-Instruction Policy in East Africa." In *The Early Grade Reading Assessment: Applications and Interventions to Improve Basic Literacy*, edited by Amber Gove and Anna Wetterberg, 139-182. Research Triangle Institute.

<sup>7</sup> Slavin, Robert E., and Alan Cheung. "A Synthesis of Research on Language of Reading Instruction for English Language Learners." *Review of Educational Research* 75, no. 2 (2005): 247-84. [www.jstor.org/stable/3516050](http://www.jstor.org/stable/3516050).

found that reducing class size had no impact on learning outcomes,<sup>8</sup> studies from the United States have more recently shown that class size can affect learning outcomes. It is possible that class size makes little difference when teachers are lecturing or teaching by call and response, but that it might matter more if teachers are trying to adjust the activities to the level of the students. Will the large class sizes in many schools in African countries impact the effectiveness of the TaRL approach?

In the TaRL Africa team's experience, tailoring teaching to the level of the child can be difficult when teachers are overwhelmed by the number of children in their classrooms. The TaRL team assumes that it would be difficult to make substantial changes in class sizes across an entire education system, and thus plans to work within these constraints in teacher-led models. One priority question will therefore be how to adjust TaRL for large classrooms. Some classrooms have so many students that there is no space to rearrange desks for group work. How can teachers assess a large number of students without losing too much instructional time? Could the assessment be shortened without losing the essence of determining the child's level? On the other hand, would a faster assessment make a student feel stressed or rushed?

However, in some TaRL programs, it may be possible to adjust class size using volunteers or student teachers. In these settings, it would be interesting to learn how class size correlates with shifts in learning outcomes. Do smaller classes make for faster student progress? Are there any tipping points—for example, a particular class size below which children make much faster progress, or above which children make much slower progress?

In some countries in which TaRL teams are currently working, teachers frequently use corporal punishment to discipline students. Many of the TaRL teams are interested to learn if there are effective ways of supporting the teachers to decrease their use of this tactic. Given that TaRL is designed to be child friendly, it is also possible that this perspective will encourage teachers to decrease their use of corporal punishment.

## Classroom Management

### Priority Questions

- How can TaRL be adjusted to be effective for large class sizes?
- How can teachers assess a large number of students without losing too much instructional time?

### Longer-term Questions

- Do smaller classes make faster progress? Are there any tipping points, for example a particular class size below which children make much faster progress, or above which children make much slower progress?
- How can TaRL instructors be supported to decrease use of corporal punishment?
- Does the TaRL approach help decrease corporal punishment?

## Level-Based Grouping

A common emerging challenge across TaRL Africa programs is how to group children by learning level, particularly in mathematics, as well as how to transition children between these groups effectively.

---

<sup>8</sup> Duflo, Esther, Pascaline Dupas and Michael Kremer. 2015. "School Governance, Teacher Incentives, and Pupil-Teacher Experimental Evidence from Kenyan Primary Schools." *Journal of Public Economics* 123:92-110.

One issue is whether to group children by their ability to recognize numbers or complete operations. Many children struggle to recognize numbers in India, perhaps due in part to the way that numbers are presented in India's numeral scripts. The TaRL team has anecdotally discovered that children have stronger number recognition in Africa than in India. The TaRL team has adapted the ASER tool for Africa.<sup>9</sup> This new adjusted tool is being integrated into the Nigeria and Cote d'Ivoire programs in 2020, but it is not yet in full use across all programs. Further understanding how this new tool can work, which problems it fixes, and which problems still remain are important parts of the learning goals for the coming year.

Related to this is how to better take advantage of the relatively strong understanding of number recognition across the countries using TaRL in Africa, while also better addressing weaknesses in the understanding of place value. On the latter issue, the TaRL Africa team has anecdotally noticed that many African students rely on the use of tally marks for operations. These tallies mean that children count rather than perform operations on sums with multiple digits. (For example, if faced with the sum  $23 + 36$ , many children would write 23 tallies and 36 tallies and count their way to 59 rather than adding the ones column and the tens column.) How should the TaRL approach be adjusted for this? For example, children's patient tallying means that the numeracy assessments often take a long time. Should teachers count answers with tallies as incorrect? How else can the TaRL approach leverage children's counting abilities while also helping them master the concept of place value?

It is not clear how best to group for mathematics. When grouping by literacy level, this question is easier, as children who master reading individual words can fairly easily move up to join a group learning to read a simple paragraph. When grouping for math, however, the process is more complicated, as there are several different operations to master, including both 1- and 2-digit addition as well as 1- and 2-digit subtraction. While moving from 1- to 2-digit operations is sequential, mastering 2-digit addition does not mean a child mastered 1-digit subtraction, so moving up from group to group could cause problems. One option is to group by math learning levels at the beginning of the year but then keep classrooms the same even as some students learn faster than others. Although evidence from RCTs in India suggests that homogenous groups might be more effective than heterogeneous ones<sup>10</sup>—a finding that would discourage sorting only once at the beginning of the year—we do not have definitive evidence isolating this factor.

Related to this issue is one of peer learning. Can teachers keep multiple levels of children in one classroom and rely on children at higher levels of learning to help lead group work for lower-level children? This type of peer-to-peer learning could utilize lessons learned from past peer-learning models. For example, the Escuela Nueva pedagogy established in Colombia uses a "cooperative learning" technique which encourages self-paced, peer-to-peer collaborative learning.<sup>11</sup> Similarly, another peer-learning model in Shaanxi, China, demonstrated that pairing students performing below the class average with students performing above the class average improved learning for both categories of students.<sup>12</sup> Even if peer learning has been shown to be effective when well managed, what are the impacts of this type of policy at scale? Given the evidence that teachers tend

---

<sup>9</sup> The original math tool used in Africa tested number recognition from 1-4 digits and all four operations. This means the tool was not progressive as some children may not understand a 3 digit number but could do addition or perhaps they could understand multiplication but not subtraction. The TaRL Africa team has designed a new tool that assesses only 1 and 2 digit number recognition, subtraction, and division such that the tool (and subsequent learning groups) are now progressive. The tool has the added benefit of being faster to administer and record results.

<sup>10</sup> Banerjee, Abhijit, Rukmini Banerji, James Berry, Esther Duflo, Harini Kannan, Shobhini Mukherji, Marc Shotland, and Michael Walton. "Mainstreaming an effective intervention: Evidence from randomized evaluations of "Teaching at the Right Level" in India." No. w22746. National Bureau of Economic Research, 2016.

<sup>11</sup> Robinson, J. P., Winthrop, R., & McGivney, E. (2016). Millions learning: Scaling up quality education in developing countries. Washington, DC: The Brookings Institution.

<sup>12</sup> Di Mo, Linxiu Zhang, Renfu Luo, Qinghe Qu, Weiming Huang, Jiafu Wang, Yajie Qiao, Matthew Boswell & Scott Rozelle. 2014. "Integrating computer-assisted learning into a regular curriculum: evidence from a randomised experiment in rural schools in Shaanxi" *Journal of Development Effectiveness*, 6:3, 300-323, DOI: 10.1080/19439342.2014.911770

to teach to the top of the class<sup>13</sup> and that they tend to revert<sup>14</sup> to their normal methods over time, will introducing peer learning to TaRL distract teachers from tailoring learning to the level of the child? Will they eventually go back to focusing heavily on top performers?

In terms of student progression, how can the TaRL approach ensure that teachers move children who have progressed? In several countries implementing TaRL, we hear that teachers sometimes delay moving children to the next level. There could be a variety of reasons for this, including coordination difficulties with other teachers, large class sizes making it difficult to pay attention to the learning levels of each child, or unfamiliarity with the new approach of progressing children. Given that TaRL is designed to be an acceleration program that empowers students to move quickly, rather than a strategy of putting students on entirely different learning tracks, this is an important aspect to monitor and try to find strategies to mitigate. For example, the TaRL Nigeria team instituted weekly meetings at the school level where TaRL teachers review the learning levels of their students and decide which to shuffle between levels.

#### Level-based Grouping

##### Priority Questions

- How can TaRL be adjusted to take advantage of African children's strengths in number recognition but weaknesses in understanding place value?
- Should students be kept in the same group or moved to a different group as they progress, especially in mathematics?
- How can the TaRL approach ensure that teachers advance children who have progressed?

##### Longer-term Questions

- How can teachers leverage peer learning in which higher-level students assist struggling students?

## Beyond Grades 3-5

One long-term learning goal is to understand if and how adaptations of the TaRL approach can help children in early grades as well as supporting children who have mastered foundational skills. The TaRL approach is targeted at middle primary school (generally grades 3 through 5), as these children have already had some exposure to learning and school and have the mental maturity to make quick progress when given tailored support for their learning. Classrooms in these middle years tend to be heterogeneous, and few have remedial mechanisms to help children learn the basics if they have not already mastered these skills. Thus, TaRL can have a large and quick impact on learning outcomes. All of the randomized evaluations in India have targeted children in this approximate age group.

Are there lessons from TaRL that could be applied to grades 1 and 2? What would be effective ways of helping these children master the basics? Research shows that in many contexts, children in early grades are already gaining skills at different rates, depending on a number of contextual factors. For example, descriptive research from the United States suggests that substantial differences in vocabulary knowledge arise between children from high-income and low-income backgrounds by the age of three<sup>15</sup>. In fact, literature from the U.S. suggests that by the time children start

<sup>13</sup> Duflo, Esther, Pascaline Dupas, and Michael Kremer. 2011. "Peer Effects, Teacher Incentives, and the Impact of Tracking: Evidence from a Randomized Evaluation in Kenya." *American Economic Review* 101(5): 1739-74.

<sup>14</sup> Banerjee, Abhijit, Rukmini Banerji, James Berry, Esther Duflo, Harini Kannan, Shobhini Mukherji, Marc Shotland, and Michael Walton. "Mainstreaming an effective intervention: Evidence from randomized evaluations of "Teaching at the Right Level" in India." No. w22746. National Bureau of Economic Research, 2016.

<sup>15</sup> Farkas, George, and Kurt Beron. "The Detailed Age Trajectory of Oral Vocabulary Knowledge: Differences by Class and Race." *Social Science Research* 33, no. 3 (2004): 464-97. doi:10.1016/j.ssresearch.2003.08.001

kindergarten, achievement gaps in math and literacy between children in the bottom and top income quintiles may be more than one standard deviation.<sup>16</sup> This phenomenon is not limited to high-income countries: Research from Madagascar suggests that children from the top income quintile (or whose mothers had received secondary education) scored higher on measures of language development at age six than children from the bottom income quintile (or whose mothers did not have secondary education).<sup>17</sup>

Furthermore, a compounding problem is that exposure to other early childhood development (ECD) or education (ECE) opportunities may create further differences in literacy levels within early-grade classrooms. For example, an ECD stimulation program for two-year-olds in Pakistan found significant improvements in language skills at age four,<sup>18</sup> while an ECE digital vocabulary program for preschool and kindergarten children in the U.S. resulted in significant vocabulary improvement.<sup>19</sup> Based on the differences in ability that may already exist due to socioeconomic factors or previous exposure to ECD or ECE programs, are children in grades 1 or 2 already able to be grouped by ability level, as the TaRL methodology requires? What is the best way to group these younger children whose abilities are different and start at a lower level than the typical TaRL groups of children in grades 3-5?

Children in early grades are learning the foundations for the first time, and their brains might not yet have fully matured. Thus, they will perhaps make slower progress than older children. Moreover, the curriculum is generally covering foundational reading and numeracy skills; it is therefore less revolutionary (and potentially less impactful) for TaRL to bring these skills into the classroom. Still, we recognize that helping children master the foundations from the beginning would be the most cost-effective and sustainable way to address the learning crisis. Pratham is currently iterating on and testing models for grades 1 and 2 in India. As these models mature and are evaluated, the team hopes to try them in Africa as well. What is the impact at scale in a government partnership setting (in India and in Africa)? One concern is that there are many different early-grade approaches to improving reading and numeracy skills. Is the TaRL approach better than alternative approaches of teaching foundational learning in early grades? It would be critical to understand this before recommending it as an approach for scale.

The team is also interested to learn how to help children who have already mastered foundational reading and math skills. Could the TaRL approach be extended to include more critical thinking, additional reading comprehension, or higher-level math skills? What parts of the package would need to be altered to include these more advanced skills? How would including these pieces affect a government's focus on ensuring mastery of foundational skills? When is it cost-effective to focus on these competencies?

Finally, is there more the TaRL team could do to support grades beyond middle primary—for example, grades 6 through 8? The team receives many requests for assistance in these grades, given that many students still struggle with the basics even after advancing to grade 6. However, many governments are using these later years to focus on examination prep for primary school leaving exams. Would trying to implement a TaRL approach in these later years conflict with exam prep time? Do enough students who remain in school in later years lack foundational skills that TaRL could be helpful? Would a pull-out model focusing on students struggling with the basics be better than an all-class approach?

---

<sup>16</sup> Duncan Greg J., Katherine Magnuson. Investing in Preschool Programs. *Journal of Economic Perspectives*. 2013;27(2):109–32.

<sup>17</sup> Fernald Lia, Ann Weber, Emmanuela Galasso, Lisy Ratsifandrihamanana. Socioeconomic Gradients and Child Development in a Very Low Income Population: Evidence from Madagascar. *Developmental Science*. 2011;14(4):832–47.

<sup>18</sup> Yousafzai AK, Obradović J, Rasheed MA, Rizvi A, Portilla XA, Tirado-Strayer N, et al. "Effects of responsive stimulation and nutrition interventions on children's development and growth at age 4 years in a disadvantaged population in Pakistan: a longitudinal follow-up of a cluster-randomised factorial effectiveness trial." *Lancet Glob Health*. 2016; 4:e548–58.

<sup>19</sup> Mayer, Susan, Ariel Kalil, and Philip Oreopoulos. "An Evaluation of the Big Word Club Vocabulary Program." Behavioral Insights and Parenting Lab, The University of Chicago. November 2018. Final Report.

## Beyond Grades 3-5

### Longer-Term Questions

- Can any lessons from TaRL be applied to grades 1 and 2? How would the approach need to be adapted? What is the impact at scale in a government partnership (in India and in Africa)? Is the TaRL approach better than alternative approaches for teaching foundational learning in early grades?
- Should the TaRL approach try to help children who have already mastered foundational reading and math skills? How would including these pieces affect a government's focus on ensuring mastery of foundational skills?
- Could the TaRL approach support children in grades beyond middle primary—for example, grades 6 through 8?

## Models and Delivery Design

Across Africa, many different TaRL models are emerging. Part of the beauty of the TaRL approach is that it is adaptable. However, not every adaptation of the model effectively improves learning outcomes. Two decades of research has tried to iterate on TaRL models to discover which work and which fall apart. We can draw some generalizable lessons from this work. For example, teachers need dedicated time in class to focus on foundational skills, and the education system must support teachers through training, mentoring, and monitoring for TaRL to become a core component of daily teaching. However, there is still much to learn about how to further adapt models to different contexts across the African continent. In particular, we are interested to learn more about the cost-effectiveness of different models in different contexts, to more deeply understand the conditions that lead to this cost-effectiveness, and to better understand which models can be sustainably scaled.

TaRL models are often delivered for everyone in a class or are targeted at children who are struggling the most. Our team would be interested to learn more about which model has the highest rate of return. Which option works most effectively when run by volunteers? By teachers? Is one option easier for government teachers to run at scale? Are there contexts in which one of these options is more effective and contexts in which the other is? For example, perhaps contexts where learning outcomes are very low for everyone vs contexts where only a portion of students are lacking foundational skills?

How many hours do children need to progress to higher levels? We frequently see iterations of TaRL that vary in the number of hours of instruction they include. We do not have rigorous evidence on the number of hours necessary to see positive results, but we do know how many hours were included in the models found to be effective so far. For example, the teacher-led program proven to be effective in Haryana was scheduled to run 130 hours during the school year,<sup>20</sup> and TCAI Ghana was scheduled for 312 hours.<sup>21</sup> Teacher-led programs may take more time than volunteer models to improve learning because teachers spend less time on task and may need time to adjust to a new way of teaching. In TCAI, teachers only taught for 34 percent of the time they were meant to teach, and they taught TaRL only 15 percent of the time. This means teachers spent 49 hours actually using the TaRL method.

---

<sup>20</sup> Banerjee, Abhijit, Rukmini Banerji, James Berry, Esther Duflo, Harini Kannan, Shobhini Mukherji, Marc Shotland, and Michael Walton. "Mainstreaming an effective intervention: Evidence from randomized evaluations of "Teaching at the Right Level" in India." No. w22746. National Bureau of Economic Research, 2016.

<sup>21</sup> Innovations for Poverty Action. 2018. "Evaluating the Teacher Community Assistant Initiative." Accessed July 19, 2018. <https://www.poverty-action.org/study/evaluating-teacher-community-assistant-initiative-ghana>

Within the teacher-led models, TaRL is sometimes delivered daily for some period of time (1 to 2 hours) throughout the year, or delivered as a short “camp” (usually 3 hours a day for a month). If TaRL is delivered in a one-month “camp model,” is there an ideal number of hours per day and per week that allows students to quickly gain skills? What if TaRL is delivered over a longer period such as one hour per day for several months? How does the time requirement differ between teacher and volunteer-led models? The RCTs conducted so far show that the camp models might make it easier to maintain motivation and consistency, but practical experience in Africa shows that these models can be difficult to embed in government education systems. Understanding these options with more specificity would help the various TaRL teams make decisions about how to implement the approach at scale at the lowest costs.

Volunteer/tutor-led programs seem to require less time and work well in intensive bursts. Volunteer/tutor-led TaRL programs proven to be effective spend between 30 hours<sup>22</sup> and 325 hours<sup>23</sup> per subject. Many of these models deal with a much smaller number of children. The team would be interested to learn the minimum number of hours necessary to improve learning outcomes across different models. Moreover, it would be interesting to learn how support structures interact with teaching hours. If teachers receive strong support, can they improve learning outcomes at a faster pace?

Regarding delivery, how can communities be mobilized to support TaRL? For example, in Niger and Madagascar, the Japanese International Cooperation Agency (JICA) is using school-based management committees as a support vehicle for TaRL. Many of Pratham’s approaches in India include community engagement aspects. How can community engagement be used effectively at scale in Africa? Is there a way to integrate this in government-led approaches?

Some countries are considering teaching the TaRL approach during pre-service training for teachers and then using student teachers’ practicums to allow them to practice the approach in classrooms. Can student teachers be used to effectively deliver or complement the delivery of TaRL approaches? This might have the double benefit of embedding TaRL as a key part of a teacher’s repertoire early on in addition to supporting current TaRL teachers. However, this approach has not yet been studied. What will happen to the motivation of existing TaRL teachers if they are provided assistance from a student teacher? Will the student teachers retain TaRL knowledge after they graduate and begin to work as government teachers? Can pre-service TaRL training replace in-service training, or are both necessary? What happens if teachers are trained in the TaRL approach and practice it, but are then transferred to a part of the country where TaRL is not yet scaled?

For models that use volunteers, how can they be sustainably recruited, motivated, and kept within the program? How should support differ for volunteer-led vs. teacher-led models? What kind of support motivates volunteers? How can TaRL teams promote continual volunteer recruitment and sustainability? Can teams leverage technology to cost-effectively motivate volunteers and to gather information on their performance? Are volunteers a cost-effective and sustainable approach at scale? What types of volunteers are most effective and sustainable? For example, are volunteers hired from the local communities highly motivated? Or do high-skilled external volunteers have a larger effect on learning outcomes?

How much structure should teachers be given in planning their TaRL lessons? The debate on scripted lessons often masks that there is actually a continuum from no structured support to entirely scripted

---

<sup>22</sup> Banerjee, Abhijit, Rukmini Banerji, James Berry, Esther Duflo, Harini Kannan, Shobhini Mukherji, Marc Shotland, and Michael Walton. “Mainstreaming an effective intervention: Evidence from randomized evaluations of “Teaching at the Right Level” in India.” No. w22746. National Bureau of Economic Research, 2016.

<sup>23</sup> Innovations for Poverty Action. 2018. “Evaluating the Teacher Community Assistant Initiative.” Accessed July 19, 2018. <https://www.poverty-action.org/study/evaluating-teacher-community-assistant-initiative-ghana>

lessons in which teachers read every word directly from a script. TaRL programs clearly fall somewhere in the middle of this continuum, as teachers do receive support in planning the order of their lessons. But how much should the approach create scaffolding for the teachers? What happens to impact at scale when teachers are given more (or less) structure? Are there certain contexts in which more structure is helpful or detrimental?

Finally, we are interested to learn more about how technology can help students at the classroom level or in the community. Pratham is doing work on this topic in India, where they have introduced tablets in some TaRL schools and communities. These schools use the technology to enhance rather than replace teacher-led activities as well as to stimulate peer learning and self learning for students. Pratham has noted that technology can be particularly useful for topics such as English where there is little knowledge from either the teacher or the student.

## Models and Delivery Design

### Priority Questions

- Can student teachers be used to effectively deliver or complement the delivery of TaRL approaches?
- How can communities be mobilized to support the TaRL approach?
- For models using volunteers, how can volunteers be sustainably recruited, motivated, and kept within the program?
- How much structure should teachers be given in planning their TaRL lessons?

### Longer-Term Questions

- How many hours do children need to move levels in teacher-led and volunteer-led models across contexts? How can support systems be used to help teachers spend more time actually leading TaRL classes? Is there a minimum number of hours TaRL needs to run to have an impact? (We note this as a longer-term priority only because much research has already been conducted on this topic in previous RCTs).
- How can technology complement teachers in delivering effective TaRL lessons?
- In what contexts is a whole class TaRL approach vs a pull-out approach for struggling students cost-effective?

## Theme 1 Summary

	Priority Questions	Longer-term Questions
Language of Instruction	<ul style="list-style-type: none"> <li>• How can the TaRL approach be adjusted to languages that feature many sight words that cannot be learned phonetically?</li> <li>• How can TaRL best be used to transition students who are fluent in their mother tongue to other languages that they will encounter in middle to upper primary school?</li> <li>• Can dual language approaches in which children learn both languages simultaneously help bridge this gap?</li> </ul>	<ul style="list-style-type: none"> <li>• How better foundations in reading in both mother tongue and second (or third) languages can influence future learning outcomes for children.</li> </ul>
Classroom Management	<ul style="list-style-type: none"> <li>• How can TaRL be adjusted for large class sizes?</li> <li>• How can teachers assess a large number of students without losing too much instructional time?</li> </ul>	<ul style="list-style-type: none"> <li>• Do smaller classes make faster progress? Are there any tipping points, for example a particular class size below which children make much faster progress, or above which children make much slower progress?</li> <li>• How can TaRL instructors be supported to decrease use of corporal punishment?</li> <li>• Does the TaRL approach help decrease corporal punishment?</li> </ul>
Beyond Grades 3-5		<ul style="list-style-type: none"> <li>• Can any lessons from TaRL be applied to grades 1 and 2? How would the approach need to be adapted? What is the impact at scale in a government partnership (in India and in Africa)? Is the TaRL approach better than alternative approaches for teaching foundational learning in early grades?</li> <li>• Should the TaRL approach try to help children who have already mastered foundational reading and math skills? How would including these pieces affect a government's focus on ensuring mastery of foundational skills?</li> <li>• Could the TaRL approach support children in grades beyond middle</li> </ul>

		primary—for example, grades 6 through 8?
Models and Delivery Design	<ul style="list-style-type: none"> <li>• Can student teachers be used to effectively deliver or complement the delivery of TaRL approaches?</li> <li>• How can communities be mobilized to support the TaRL approach?</li> <li>• For models using volunteers, how can volunteers be sustainably recruited, motivated, and kept within the program?</li> <li>• How much structure should teachers be given in planning their TaRL lessons?</li> </ul>	<ul style="list-style-type: none"> <li>• How many hours do children need to move levels in teacher-led and volunteer-led models across contexts? How can support systems be used to help teachers spend more time actually leading TaRL classes? Is there a minimum number of hours TaRL needs to run to have an impact?</li> <li>• How can technology complement teachers in delivering effective TaRL lessons?</li> <li>• In what contexts is a whole class TaRL approach vs a pull-out approach for struggling students cost-effective?</li> </ul>

## Theme 2. Teacher Support

Teachers will only be successful in helping students succeed if they receive the guidance they need to know what to do, the time and support to overcome roadblocks, and the motivation to want to accelerate learning for all students. A study of Pratham's Read India intervention shows that when teachers were simply given TaRL training or materials, they did not translate this into effective outcomes for students.<sup>24</sup> In this way, TaRL is similar to other pedagogies that have also been ineffective at increasing learning outcomes when teachers did not receive adequate support to implement the new pedagogy, including an active learning for math program in Costa Rica<sup>25</sup>.

As such, we believe that TaRL will only be effective when built into the education system in such a way that government officials own it as part of their core work and support the teachers in implementing it. While we have clear evidence that these support pieces are necessary, working with governments in new contexts to put them in place at scale will take much work and learning. Moreover, we are learning that the cost of these support pieces in Africa can be quite high. Making these support pieces as efficient and effective as possible will reduce the cost of delivering them and thus increase the chance that TaRL can fit within government budgets.

### Teacher Training

Before teachers can implement the TaRL approach, they must receive training in the details of the methodology. A typical TaRL teacher training lasts four or five days. In India, Pratham has been able to leverage the government's in-service training system, meaning that the additional costs of running these trainings are minimal. In Africa, many governments do not have an annual in-service training system that can be leveraged to train teachers in the TaRL model. In addition, population densities are often quite low and transportation costs are high. In order to come to the trainings, teachers often receive a transportation stipend and per diem for spending the night outside their home location. Thus, training teachers becomes a large part of the budget for TaRL.

How should the content of the trainings be further adapted to various African contexts? In areas where teacher knowledge is low, should trainings include a boot camp on reading and maths skills? As a priority, the team is first interested to learn more about teacher competency levels such that it can determine if such a system would be helpful.

How can TaRL trainings be further adapted to be more efficient and cost-effective? Can the number of days be shortened if the training material is delivered more concisely and efficiently? Are there ways to further cascade the trainings so that they can be non-residential? Could some of the trainings be delivered by more economical means, such as by making use of training videos at the school level? What happens to the quality of training and the teacher's ability to run a TaRL classroom if any of these steps are skipped? More importantly, what happens to learning outcomes if cheaper versions of trainings are used? Do longer, more centralized trainings have a stronger impact on learning outcomes? If so, how much stronger? What happens to effectiveness when this training becomes diffuse?

How can TaRL trainings leverage governments' existing systems? For governments that provide in-service training, can TaRL leverage this system and avoid extra costs? For example, the Madagascar

---

<sup>24</sup> Banerjee, Abhijit; Banerji, Rukmini; Duflo, Esther; Walton, Michael. June 2011. "What helps children to learn? Evaluation of Pratham's Read India program in Bihar & Uttarakhand." Available from: <https://www.povertyactionlab.org/sites/default/files/publications/Read%20India%2C%20What%20helps%20children%20to%20learn.pdf>

<sup>25</sup> Berlinski, Samuel, and Matias Busso. 2017. "Challenges In Educational Reform: An Experiment On Active Learning In Mathematics". *Economics Letters* 156: 172-175. doi:10.1016/j.econlet.2017.05.007.

government, in partnership with JICA, was able to scale up a TaRL-integrated learning improvement model to all 1,650 primary schools in Analamanga Region at the unit cost of 1.1 USD per student (including democratic establishment of SMCs at around 0.9 USD per student) by making use of the in-service training system. In countries that don't have functioning in-service systems, what are the systems that do work? How can these be leveraged?

How can trainings be funded through government budgets? Given that initial trainings are a one-time cost, does an increased impact (in the short and long-term) justify seeking external donors to fill the gaps in government budgets? Or is it more important that governments see these trainings from the very beginning as their own and, thus, they must fit within existing government budgets and systems?

In addition, we are interested in the role of refresher trainings for sustaining scale. Can schools run refreshers on their own, or are they best supported by an education official at a level above the school? What support do they need to be effective and sustainable? Will these trainings continue annually even when there is no external funding for them? What will keep leaders motivated to continue hosting trainings?

## Teacher Training

### Priority Questions

- Do government teachers have foundational reading and maths skills?
- How can TaRL teacher trainings be adapted to be more efficient?
- How can the cost of delivering TaRL teacher trainings be reduced while also ensuring that quality (and eventual impact) remains high?

### Longer-term Questions

- If teachers are lacking foundational skills, should trainings include boot camps on these skills? What would be the impact and cost-implications of adding this?
- How should initial and refresher trainings be funded?
- What support do local government officials need in order to continue running refresher trainings sustainably in the long term?
- How can TaRL trainings leverage governments' existing systems?

## Mentor Training

How can we further adapt mentor training to improve mentors' effectiveness in supporting teachers? We know that mentoring is the critical backbone of ensuring that teachers stay supported, motivated, and effective at improving learning outcomes. One way to potentially influence the quality of mentoring is to change the way mentors are trained. In the TaRL approach, mentors go through a training similar to the teacher training on methodology, but with some additional instructions on mentoring and data management. In addition, they are expected to conduct practice classes.

In India, before government officials mentor teachers, they spend 20 days leading a TaRL classroom themselves for three hours a day. These are referred to as "practice classes." Often, these officials are former teachers, but it may have been years since they led a class themselves. Mentors measure learning outcomes at the beginning and end of the practice classes. Mentors are often amazed by the progress that children make during this period—and motivated to help teachers find this same success in improving learning for all children. Although practice classes are part of the models proven through RCTs to have an impact, we do not yet have evidence isolating the impact of just the practice

classes. Moreover, we would like to learn more about how many days or hours these practice classes need to be, and what design characteristics government systems should consider when arranging them.

In addition, we would like to learn how to better help mentors transfer skills effectively to teachers, including changing this support from punitive monitoring to helpful coaching. As we explore ways to make mentors and ultimately TaRL teachers more effective, we may be able to draw on previous research from educational literature that examines how classroom observations can provide feedback crucial to teacher improvement.<sup>26</sup>

Finally, who should be trained as a mentor? It's clear from evidence and experience that involving the relevant actors in the education hierarchy into the TaRL approach is critical for its ongoing success. But which of these actors should attend TaRL training? For example, should school administrators as well as school mentors attend mentor training and/or teacher training? Does adding more people from the existing system into trainings improve learning outcomes? What are the cost implications of this addition?

### Mentor Training

#### Priority Questions

- Are practice classes necessary to ensure mentors are effective? If so, how long must these practice classes be? What kind of support must the mentors receive during this period?

#### Longer-Term Questions

- How can mentors be trained to provide helpful rather than punitive feedback?
- Does adding more people from the existing system into trainings improve learning outcomes? What are the cost implications of this addition?

## Mentoring Support

As mentioned, an RCT which included strong mentoring support showed positive effects at scale, while another without this support showed that teachers stopped using TaRL and thus had no impact on student outcomes.<sup>27</sup> This mentoring can help teachers better focus on the objectives of their lessons, give them feedback on the overall flow of their lessons, celebrate their successes, and keep them motivated. We have many design questions about how to structure mentoring systems. Who are the most effective mentors? Should this be someone (such as a head or senior teacher) who is based at the school, a roving mentor who oversees several schools, or a combination of the two? How often must each teacher be visited by a mentor for him or her to stay motivated and effective? What are specific tools that are helpful to ensuring these visits are positive and helpful? What aspects of mentoring do teachers find most and least useful? From whom?

Can technology supplement or complement mentoring support to teachers? Text message reminders or short training videos sent over WhatsApp might continue "training" teachers even after

<sup>26</sup> Halpin, P. F. & Kieffer, M. J. (2015). Describing profiles of instructional practice: A new approach to analyzing classroom observation data. *Educational Researcher*, 44, 263-277. Link to paper: <https://files.eric.ed.gov/fulltext/ED577272.pdf>

<sup>27</sup> Banerjee, Abhijit, Rukmini Banerji, James Berry, Esther Duflo, Harini Kannan, Shobhini Mukherji, Marc Shotland, and Michael Walton. "Mainstreaming an effective intervention: Evidence from randomized evaluations of "Teaching at the Right Level" in India." No. w22746. National Bureau of Economic Research, 2016.

they are no longer sitting in a training venue. This could include starting new groups and/or tapping into existing active WhatsApp groups. In order to understand if this is a good idea, it might be interesting to study what types of messages are helpful in motivating teachers and in leading them to change their classroom practices. Do messages from different sources affect teachers' motivation differently? For example, how does having high-level government officials send messages to teachers impact their motivation? Moreover, it would be good to map the prevalence of phone ownership, the type of phones teachers use, limitations such as access to data, and teachers' familiarity with accessing information via phones.

We are also interested to further think about the support that mentors themselves receive. Who mentors the mentor? How can this managerial role be structured to ensure effectiveness? What kind of support do mentors need during training and practice classes? Who are the right people to give this support? How does a government system react to different types of people being asked to be the mentor's mentor? Is there a system that fits well within existing government systems and thus can be sustained? What is the role of non-governmental organizations in mentoring mentors? Can technology supplement in-person support to mentors? How? Which methods of mentoring mentors can be sustained effectively at scale?

#### Mentoring Support

##### Priority Questions

- Who are the most effective mentors? Should this be someone who is based at the school, a roving mentor who oversees several schools, or a combination of the two?
- How often must each teacher be visited for him or her to stay motivated and effective?
- What are specific tools that are helpful to ensuring these visits are positive and helpful?
- What aspects of mentoring do teachers find the most and least useful? From whom?
- Who mentors the mentor? How can this managerial role be structured to ensure effectiveness?

##### Longer-Term Questions

- Which methods of mentoring mentors can be sustained effectively at scale?
- Can technology supplement or complement mentoring support to teachers?

## Data Flow, Understanding, and Action

Another tenet of the TaRL approach is helping the system focus on simple, easy-to-understand data about students' reading and math abilities. Assessing children, aggregating data, and hosting review meetings are critical pieces of the approach and are being implemented in all TaRL programs (that we know of). However, we would like to learn more about how to support government officials to understand, visualize, and take action based on this data. Many government systems are used to collecting and reporting on data, but then not acting based on what they learn. As such, building systems of action based on data may be a new concept for government officials that may take time to learn.

We are interested to learn about adaptations to the TaRL model which allow data aggregation, understanding, and action to occur more smoothly and effectively. What are effective ways to train government officials in data aggregation, understanding, and action? Which governments use data well? Why? Can we learn lessons that help other governments learn to use data, too?

Furthermore, can technology be helpful in collecting and analyzing data on learning outcomes? For example, the Uttar Pradesh state government used an app developed by Pratham to help teachers enter learning outcomes data from their students. This app allows teachers to instantaneously share data with mentors and other government officials who support them, and to get feedback about how they compare to other teachers and schools. Moreover, the app helps teachers and government officials easily visualize the progress they are making in helping children learn. Can similar applications work in Africa? Would there be different constraints in these contexts? Would this type of data sharing be motivational for teachers? What are the challenges to scaling such systems?

What can TaRL teams do to help governments focus on learning outcomes data? Which government departments or actors should be involved to keep the pressure on teachers to improve foundational skills? How can we ensure that this pressure does not lead to systematic cheating or inflation of learning outcomes scores? What auditing systems must be put in place to ensure these scores stay honest?

### Data Flow, Understanding, and Action

#### Priority Questions

- What are effective ways to train government officials in data aggregation, understanding, and action?
- How can we reduce the risk of systematic cheating or inflation of learning outcomes scores?

#### Longer-term Questions

- Which governments use data well? Why? Can we learn lessons that help other governments learn to use data, too?
- What can TaRL teams do to help governments focus on learning outcomes data? Which government departments or actors should be involved to keep the pressure on teachers to improve foundational skills?

## Theme 2 Summary Table

	Priority Questions	Longer-Term Questions
Teacher Training	<ul style="list-style-type: none"> <li>• Do government teachers have foundational reading and maths skills?</li> <li>• How can TaRL teacher trainings be adapted to be more efficient?</li> <li>• How can the cost of delivering TaRL teacher trainings be reduced while also ensuring that quality (and eventual impact) remains high?</li> </ul>	<ul style="list-style-type: none"> <li>• If teachers are lacking foundational skills, should trainings include boot camps on these skills? What would be the impact and cost-implications of adding this?</li> <li>• How should initial and refresher trainings be funded?</li> <li>• What support do local government officials need in order to continue running refresher trainings sustainably in the long term?</li> <li>• How can TaRL trainings leverage governments' existing systems?</li> </ul>

Mentor Training	<ul style="list-style-type: none"> <li>• Are practice classes necessary to ensure mentors are effective? If so, how long must these practice classes be? What kind of support must the mentors receive during this period?</li> </ul>	<ul style="list-style-type: none"> <li>• How can mentors be trained to provide helpful rather than punitive feedback?</li> <li>• Does adding more people from the existing system into trainings improve learning outcomes? What are the cost implications of this addition?</li> </ul>
Mentoring Support	<ul style="list-style-type: none"> <li>• Who are the most effective mentors? Should this be someone who is based at the school, a roving mentor who oversees several schools, or a combination of the two?</li> <li>• How often must each teacher be visited for him or her to stay motivated and effective?</li> <li>• What are specific tools that are helpful to ensuring these visits are positive and helpful?</li> <li>• What aspects of mentoring do teachers find the most and least useful? From whom?</li> <li>• Who mentors the mentor? How can this managerial role be structured to ensure effectiveness?</li> </ul>	<ul style="list-style-type: none"> <li>• Which methods of mentoring mentors can be sustained effectively at scale?</li> <li>• Can technology supplement or complement mentoring support to teachers?</li> </ul>
Data flow, understanding and action	<ul style="list-style-type: none"> <li>• What are effective ways to train government officials in data aggregation, understanding, and action?</li> <li>• How can we reduce the risk of systematic cheating or inflation of learning outcomes scores?</li> </ul>	<ul style="list-style-type: none"> <li>• Which governments use data well? Why? Can we learn lessons that help other governments learn to use data, too?</li> <li>• What can TaRL teams do to help governments focus on learning outcomes data? Which government departments or actors should be involved to keep the pressure on teachers to improve foundational skills?</li> </ul>

## Theme 3. Impact and Sustainability Questions

Moving toward the right of the learning continuum, we are interested to study the long-term impact of TaRL on students. We are additionally interested in systems change questions about how technical assistance can be well designed to affect a government's long-term ability to improve foundational skills for all students.

### Long-Term Impact of TaRL

While many evaluations have measured TaRL's impact on the learning outcomes it is directly designed to achieve, few have rigorously analyzed how these learning outcomes persist over time, or how strengthened foundational skills affect other learning outcomes such as higher-level competencies or standardized exam scores.

How long do learning gains persist for students participating in TaRL? Do they still demonstrate increased learning in reading and mathematics after a year? Two years? Longer? How does TaRL affect higher-level education outcomes? For example, can students who are now able to read words fully comprehend the passages they are reading, especially if reading in their second (or third) language? Does TaRL affect school drop-out or attendance in later years?

How do TaRL outcomes correlate with outcomes on other tests? How does participating in TaRL affect outcomes on government-run standardized tests (such as primary school leaving exams) or international exams such as PASEC and SACMEQ? How does TaRL participation affect grade-level competencies?

Beyond educational outcomes, does TaRL have an impact on other outcomes for students, such as confidence and happiness? Does it also affect these types of outcomes for instructors, whether they are volunteers or government teachers?

Does TaRL have spillover effects on the education system? For example, do TaRL teachers change their teaching practices in non-TaRL classes? How does this shift affect learning outcomes? Does using TaRL in the middle grades of primary school shift the way that teachers teach foundational skills in the early grades? Do mentors integrate their TaRL mentoring skills into other support they give to teachers?

#### Long-Term Impact

##### Priority Questions

- How long do learning gains persist for students participating in TaRL?
- How does TaRL affect higher-level educational outcomes?

##### Longer-Term Questions

- Does TaRL have an impact on other outcomes for students, such as self-efficacy, confidence, or happiness? Does it also affect these types of outcomes for instructors, whether they are volunteers or government teachers?
- Does TaRL have spillover effects on the education system?

## Government Sustainability

The TaRL team's goal is to ensure that all children have foundational reading and mathematics skills. The most sustainable and scalable version of TaRL is for the approach to be owned and run by government partners. Given that governments are responsible for the education of all students in their countries, they have the strongest platforms for reaching the largest breadth of students. While we have evidence that TaRL works at scale with government partners, we do not yet have evidence on how these governments partners can effectively run TaRL at scale in Africa without support from external donors or non-governmental organizations. Nor do we yet have examples of TaRL at national scale, fully integrated into government systems. What is the pathway to national, government-led scale? Many of the questions in the earlier two themes also pertain to government sustainability. If the model is more efficient and effective, then it should be easier for governments to scale. In this section, we add additional questions about how to get to government sustainability.

While we think these questions are critical ones, we acknowledge that finding methods to rigorously answer them will be difficult. We will seek ways to determine the causal impact of many of these questions, but we will also use qualitative methods and case studies as initial indications of how to further adapt our work toward sustainability in government.

We have much to learn about how best to integrate TaRL into existing government roles and departments. At the central government level, is there a better delineation of roles that would lead TaRL to scale sustainably? At the local level, what actions can leaders take that correlate with learning outcomes improving? What managerial roles do local governments prioritize who have made quick progress in learning outcomes? How do these structures compare to local government units that have not seen strong improvements? Are there any management actions that we could systematically test? For example, we currently see local leaders taking many steps to support TaRL, including establishing WhatsApp groups to motivate mentors, visiting schools to show their interest in the approach, and hosting refresher trainings and review meetings.

What other structures already exist in education systems that can be leveraged to help TaRL succeed? For example, how can TaRL assessments be streamlined with existing government assessments? How can trainings be incorporated into already existing in-service and pre-service training systems?

What role can NGOs play in supporting governments to scale? We have an example of an NGO in India (Pratham) that has effectively worked with governments to improve learning outcomes at scale. However, there are differences between India and many African countries which affect the model of NGO support, such as differences in the structure, size, and wealth of governments, the cost of staff, and the presence of international donors.

In the African context, what capacity building and technical assistance activities lead to long-term government ownership? Are there any activities that undermine government ownership and should therefore be avoided? How long should NGOs support government partners? Is there a tipping point after which a government is ready to scale the approach with no or minimal support?

Can NGOs test new adaptations and innovations so that governments can pick up ones proven to be effective? If so, how can NGOs effectively help transfer these ideas to the government system? Is there a way to track government ownership of TaRL, such as by tracking roles held by government officials vs. roles held by a supporting NGO? Or by tracking a government's use of learning outcomes data?

What effective roles can donors can play to cover the start-up costs of incorporating TaRL into a government system? What lessons can we draw from other projects or other sectors in which donors have played supportive roles in helping an approach reach full scale? What can we learn from examples when this assistance has not led to government ownership or sustainability? Our teams have learned that many education projects do not continue beyond the period in which they have donor funding. How can we ensure that governments view the TaRL approach as their own? Are there ways to engage with governments that lead them to feel more ownership over TaRL, thus ensuring sustainability in the longer term?

Finally, how does TaRL affect the way that governments broadly think about the desired outcomes of their education system, or how to best achieve or measure those outcomes? While this last question may be hard to measure rigorously, qualitatively learning how school systems define foundational skills may influence the way TaRL teams engage with governments. For example, does a focus on foundational skills change the incentives for teachers in primary schools? How do governments think about the role of TaRL alongside early-grade reading approaches already in the system?

### Government Sustainability

#### Priority Questions

- At the central government level, is there a better delineation of roles that would lead TaRL to scale sustainably?
- At local levels, what actions do leaders take that correlate with learning outcomes improving?
- What lessons can we draw from other projects or other sectors in which donors have played supportive roles helping an approach reach full scale? What can we learn from examples when this assistance has not led to government ownership or sustainability?

#### Longer-Term Questions

- What other structures already exist in education systems that can be leveraged to help TaRL succeed?
- What role can NGOs play in supporting governments to scale? What capacity building and technical assistance activities lead to long-term government ownership? Are there any activities that undermine government ownership and should therefore be avoided? How long should NGOs support government partners?
- What effective roles can donors can play to cover the start-up costs of incorporating TaRL into a government system?
- How do governments holistically think of their goals after working on TaRL?

### Theme 3 Summary Table

	Priority Questions	Longer-Term Questions
Long-term Impact	<ul style="list-style-type: none"> <li>• How long do learning gains persist for students participating in TaRL?</li> <li>• How does TaRL affect higher-level educational outcomes?</li> </ul>	<ul style="list-style-type: none"> <li>• Does TaRL have an impact on other outcomes for students, such as self-efficacy, confidence, or happiness? Does it also affect these types of outcomes for instructors,</li> </ul>

		<p>whether they are volunteers or government teachers?</p> <ul style="list-style-type: none"> <li>• Does TaRL have spillover effects on the education system?</li> </ul>
Government Sustainability	<ul style="list-style-type: none"> <li>• At the central government level, is there a better delineation of roles that would lead TaRL to scale sustainably?</li> <li>• At local levels, what actions do leaders take that correlate with learning outcomes improving?</li> <li>• What lessons can we draw from other projects or other sectors in which donors have played supportive roles helping an approach reach full scale? What can we learn from examples when this assistance has not led to government ownership or sustainability?</li> </ul>	<ul style="list-style-type: none"> <li>• What other structures already exist in education systems that can be leveraged to help TaRL succeed?</li> <li>• What role can NGOs play in supporting governments to scale? What capacity building and technical assistance activities lead to long-term government ownership? Are there any activities that undermine government ownership and should therefore be avoided? How long should NGOs support government partners?</li> <li>• What effective roles can donors play to cover the start-up costs of incorporating TaRL into a government system?</li> <li>• How do governments holistically think of their goals after working on TaRL?</li> </ul>

# Conclusion

Many studies have proven that Teaching at the Right Level is an effective method for improving learning outcomes in a variety of settings. However, as this document lays out, there is still much to learn about how TaRL can be adapted to contexts across the African continent. We hope this document starts to delineate a framework for TaRL Africa countries and partners in planning priorities for future learning.

This document is meant to be a theoretical one to help guide the priorities for learning of the TaRL Africa team and to share these priorities with our partners. We intentionally do not share an operational plan in this document, but rather want to encourage partners to think creatively about their own contributions to this agenda.

The TaRL Africa team will further work to create a platform for these partners to share their lessons as their learning work proceeds. Platforms for sharing include writing pieces for the TaRL Africa website, participating in TaRL Africa webinar series, joining our email list and attending TaRL Africa conferences. We also hope many of the learning products produced under this portfolio will be published in international journals and shared at conferences. Most of all, we hope that the learning pieces are shared back with our Ministry counterparts, used to further improve the approach, and, ultimately, accelerate the mastery of foundational skills for all African students.