



Remediation in Foundational Literacy and Numeracy: A How-to Guide

Introduction

When national policies first expanded public education, with resulting increased enrollment, curricula were not adjusted for the learning needs of the many newly enrolled children, who were often first-generation learners.¹ Nor did these curricula take into account the range of abilities within a class; higher-performing learners outpaced learners who required additional help. Consequently, in many low- and middle-income countries, equity issues around learning grew, and gaps between struggling learners and those meeting the curriculum expectations significantly increased, leaving millions of children behind.² **Tragically, many of the world's youth who lack basic literacy and numeracy skills can be found where one would least expect to find them—inside the classroom.**³

Sustainable Development Goal target 4.6 seeks to “ensure that all youth and a substantial proportion of adults, both men, and women, achieve literacy and numeracy” by 2030. While access has increased dramatically in recent years, improvement in learning has been relatively stagnant.

Moreover, the COVID-19 pandemic has exacerbated the learning crisis and accentuated learning inequities.⁴ Indeed, the number of out-of-school children and youth grew by 1.34 billion learners between 2018 and 2020.⁵ As a result, learners who were struggling before school closures are now returning to the classroom even further behind.⁶ Today more than ever, education systems must accommodate those who struggle the most. But how? Fortunately, we have existing remediation models, and growing evidence, to help guide the way.

REMEDICATION: A VITAL PIECE TO THE SOLUTION

Remediation is the process of correcting or fixing a problem. Thus, education remediation interventions are designed to correct the problem of inequities around learning in the classroom by providing additional support for struggling learners until they can maintain pace with their peers receiving regular classroom instruction. The term “remediation” is often conflated with other terms, such as “catch-up programs,” “accelerated learning,” “intervention,” and “teaching at the right level.” The box on the next page distinguishes these terms from one another. This guide uses the term “remediation” to describe efforts **within regular foundational literacy and numeracy (FLN) programs** that offer students who are struggling to learn and falling behind in skills an opportunity to “catch up” to their peers.

Even within a well-working FLN program, children will learn at different speeds, with some requiring more support than others. Assessment-informed instruction includes approaches for teachers to identify students who are struggling to keep up, as well as mechanisms for providing the support they need—which may include remedial intervention. In addition, because system improvement takes time, many children will continue to lag behind even as systems improve. Thus, alongside the need to institutionalize FLN efforts, such as structured pedagogy and assessment-informed instruction (see [How-to Guides](#) on these topics), there is an urgent need to provide effective support to children who are struggling the most. **Remediation programs are not designed to replace poor core instruction. Rather, remediation opportunities should be provided as part of FLN programs to help the learners who are struggling the most acquire foundational skills through small-group instruction that is tailored to their individual learning levels.**

This guide is based on evidence from remediation programs that seek to close a learning gap by identifying primary-grade students who are struggling or behind their peers and by providing them with the foundational FLN skills they did not acquire during classroom instruction. These programs embrace various approaches: Pratham's TaRL (and specific country variations on TaRL), a tiered system of support called “response to intervention” (used in high- and middle-income



countries), and various tutoring models. This guide takes lessons learned from these evidence-based remediation programs and consolidates them into seven core building blocks of remediation:



These seven core building blocks are key to creating a successful program that helps struggling learners gain fundamental academic skills.

Core Building Block #1: Assessment to Inform Remediation

All successful remediation interventions begin with a knowledge of where students are in their learning trajectory. Assessment should be used to make this determination and should be linked specifically to the core skills students need to grasp. Before beginning a remediation program, all learners should be screened in order to identify those needing additional support and to plan remediation efforts targeted at students' particular learning levels.¹³ When determining which assessment is right for a particular context, the following questions should be considered:

- Does the assessment measure key competencies, such as sound-symbol correspondence, world-level decoding, recognition of the meaning of common grade-level words for reading, ability to identify and count in whole numbers, ability to solve basic operations using whole numbers, and ability to use non-standard and standard units to measure, compare, and order (see the [Global Proficiency Framework](#) for more examples)?
- Can the assessment be easily administered and scored?
- Can the same assessment be used to monitor students' progress?
- Does the assessment produce data that are accurate and easy to understand and use?

This section identifies two types of assessments that answer “yes” to the above questions and provides an example of each: mastery measurement and general outcome measurement. Both forms of measurement can provide valuable information on student performance in relation to a goal.¹⁴

When selecting an assessment, it is important to consider measures that link directly to learning targets (e.g., scores that are used to indicate interim learning benchmarks and goals within and across grade levels). The assessment should be able to support, or closely linked to, both initial and ongoing monitoring of student progress, with clear eligibility and

TERMS SIMILAR TO REMEDIATION

Remediation:⁷ “additional targeted support, concurrent with regular classes, for students who require short-term content or skill support to succeed in regular formal programming.”

Differentiated instruction: pedagogical practices that allow an instructor to tailor instruction to meet varying student learning needs within a class.

Catch-up program:⁸ “a short-term transitional education programme for children and youth who had been actively attending school prior to an educational disruption, which provides students with the opportunity to learn content missed because of the disruption and supports their re-entry to the formal system.”

Accelerated learning:⁹ an approach through which learners may “jump start” their learning, gaining core skills through a condensed curriculum and resulting in faster, deeper, and more proficient learning.

Remedial intervention:¹⁰ “a formal process for helping students who are struggling, where research-based instructional approaches are implemented around very specific skill deficits and where progress is regularly tracked.”

Teaching at the right level (tarl): teaching students at their learning level (determined by assessment) rather than teaching by grade or age level.

Teaching at the Right Level (TaRL):¹¹ a specific approach to tarl developed by Pratham, an education-based NGO in India. “TaRL is designed to improve basic literacy and math skills for students in grades 3-5. The approach features: (i) grouping children by learning level rather than grade level (age), and (ii) teaching children at each learning level through engaging activities and tailored materials.”

Tutoring:¹² one-on-one or small-group instruction aimed at supplementing, rather than replacing, classroom-based education.



exit criteria. In addition, when determining what measures to use for screening and progress monitoring in the remediation intervention, it is important to consider what assessments are being used as part of the broader FLN program and in the national system. For example, if a group-administered assessment, such as the Group Administered Learning Assessment (see the [how-to guide on assessment-informed instruction at the systems level](#) for more discussion), is being used to track progress at the classroom and school level, consider using data from this assessment to screen students for remediation. Linked one-on-one assessments, such as the mastery and general outcome measures described below, could then be used to monitor progress. Core building block #4 (“monitored progress”) in this guide discusses how to use assessment to monitor progress and determine when students are ready to shift to a different group or no longer need remediation.

The two subsections below describe a common assessment used for mastery measurement and a common assessment used for general outcome measurement, respectively.

MASTERY MEASURES

A mastery measurement assessment evaluates a student’s proficiency in a single target skill. One of the most well-known and commonly used mastery measurement tools for reading and math used in low- and middle-income countries is the Annual Status of Education Report (ASER) tool. Pratham, an Indian nongovernmental organization focused on education, developed the citizen-led survey ASER in 2005 to assess reading and math scores. The reading and math tasks in the tool target key FLN skills and are simple for teachers and other instructors to learn and to administer. The ASER and similar assessments are now being used by many programs in multiple countries. Figures 1 and 2 show examples of an ASER reading assessment and an ASER math assessment, respectively.

FIGURE 1. Sample ASER reading assessment

FIGURE 2. Sample ASER math assessment

SAMPLE-4

ASER READING TEST SAMPLE

Letter e d w s c g h z l q	Word hand bus cat book day few old	story Leana is a little girl. Her mother gave her a book. It has lots of stories and nice pictures. Leana reads it very slowly on her way to the school. The book words. Her teacher was very happy. The
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Para
I go to school by bus
The bus has four wheels
It has many windows

Ask the child to read out all the letters given in the box. Listen to see if they get at least 3 letters correct.
Ask the child to read out all the words given in the box. Listen to see if they get at least 3 words correct.
Ask the child to read the paragraph given in the box. If child reads paragraph correctly, then move to next level.
Ask the child to read the story given in the box. Child must read the story fluently and without mistakes.

MATH TEST SAMPLE (4)

Number recognition 1-9	Number recognition 10-99	Subtraction 2 digit with borrowing	Division 3 digit by 1 digit
5 7	71 24	63 41 - 44 - 13	7) 898
8 4	92 86	92 71 - 48 - 35	4) 659
2 9	23 79	45 34 - 26 - 18	8) 946
3 1	37 61	43 46 - 29 - 17	6) 757
	58 14		

Ask the child to recognize any 5 numbers in 10 seconds. If correct, ask next question.
Ask the child to recognize any 5 numbers in 10 seconds. If correct, ask next question.
Ask the child to do any 2 subtraction problems. Both must be correct.
Ask the child to do any 1 division problem. It must be correct.

Source: ASER, “Do It Yourself” Toolkit, http://img.asercentre.org/docs/Aser%20survey/Tools_Testing/Reading/english.jpg.

Source: ASER, “Do It Yourself” Toolkit, http://img.asercentre.org/docs/Aser%20survey/Tools_Testing/Maths/english.jpg.

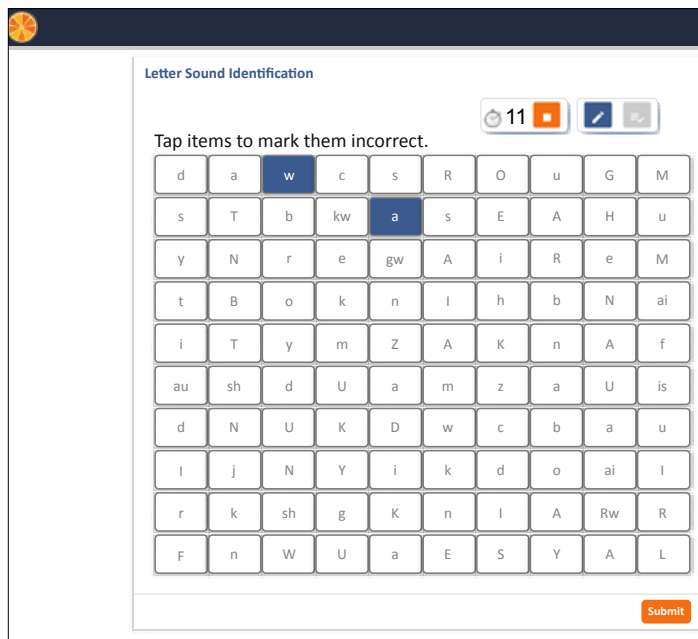
ASER has cut-off performance scores for its assessments that are labeled in simple and holistic terms. As a result, teachers may easily administer an ASER to their students and determine which of them meets the performance cut-off. Learning levels are then identified by these cut-off scores (for all mastery level monitoring assessments, not only the ASER). Importantly, instructional content is organized around each designated learning level in order for the instructor to easily identify the appropriate instruction for each learning level. Materials should link directly with the activities or lessons for remediation so that teachers can quickly determine what to teach for each identified learning-level group (see building block #2).



GENERAL OUTCOME MEASURES

General outcome measures, also referred to as curriculum-based measures (CBMs), are measures of a student’s performance in FLN skills. They measure individual students’ progress toward an instructional or curricular goal. Unlike mastery assessments, they do not focus on whether a student has mastered one specific skill. Instead, they measure the consolidation of requisite skills that contribute to overall academic proficiency, and they are represented by continuous data illustrating progress toward a long-term goal. CBMs typically include timed tasks. For example, the Early Grade Reading Assessment includes sub-tests that measure whether students have reached automaticity on reading sub-skills. Figure 3 shows an example of a letter sound identification sub-task on EGRA. General outcome measures often require more training and monitoring for accurate administration and scoring than non-timed mastery measures. The Response to Intervention remediation intervention model utilizes CBM measures to identify which children will receive additional support and to track their progress.

FIGURE 3. EGRA letter-sound assessment display from Tangerine



For more information about Tangerine, see tangerinecentral.org.

Core Building Block #2: Grouping Students by Learning Competency

Once students have been assessed, those who are identified as needing remedial support should be grouped based on their current learning level as indicated by the assessment—rather than by their grade or age.¹⁵ Remediation learning-level groups should be designed as small groups, with an ideal group size of three to six students. This small size ensures that each student has the appropriate learning support to learn the skills taught.¹⁶ In many contexts, particularly post-COVID-19, there will be many more than three to six students who need remedial support at a given competency level. Where possible, involving multiple teachers or teacher aides can reduce the student-teacher ratio. Small-group instruction with engaging activities that are aligned with student learning levels will enable students to participate and learn with confidence. Moreover, it allows teachers to observe student responses and quickly intervene to ensure that each student receives the support needed to acquire the skills at that learning level.

In a TaRL intervention, students are typically grouped based on their performance on the ASER. Learning-level groups are

aligned with ASER levels, and learning-level groups learn the skills that reflect the ASER level score (e.g., for reading, these skills consist of letters, words, paragraph/sentences, and a story). The TaRL activities address the skills at each group’s instructional level. The TaRL implementation teams develop the games and activities for each TaRL intervention (Figure 4 shows a group-activity example from a TaRL program in Sierra Leone). Because TaRL focuses on remediation in FLN skills, all activities directly teach skills considered essential for FLN proficiency. The TaRL website provides details on games and activities that align with foundational math skill levels and provides examples that illustrate the developmental progression in skills for literacy and numeracy. There is flexibility in the TaRL approach in that it encourages teams to consider the cluster of skills most appropriate for their context while also remaining consistent with the science of teaching and the

FIGURE 4. Example from a Teaching at the Right Level literacy manual in Sierra Leone

Creating words from letter cards and reading words

1. Use a set of letter cards that make at least 4 different words. Give each pair of pupils a set of cards. Make sure that the letters selected can make at least 3-5 different words.
2. Ask pupils to work in pairs and form as many 2-3 letter words as possible.
3. Pupil pairs are asked to read their words aloud.
4. Praise the pairs that create 2-3 correctly spelled words that they created.

Source: Targeted Instruction in Sierra Leone (TISL) Project: Teaching Manual for Literacy <https://www.poverty-action.org/sites/default/files/Literacy%20Manual%20140121.pdf>



research evidence on how to teach FLN skills.

Figure 5 shows an ASER chart adapted for the USAID project Ghana Partnership for Learning. B1, B2, and B3 are basic primary-grade levels. The chart presents a simple summary that reflects the necessary instructional focus of remediation for reading. The cut-off scores on ASER show the level at which the student will need targeted instruction. For example, if a student can name five of the ten letters presented but cannot read any words, then the student can be considered to be at level 2. At this level, the student needs support in consolidating letter name and sound knowledge in order to begin decoding words. Since ASER is a mastery test, each level is defined by mastery or non-mastery. When a learner achieves the score indicating mastery, they may move to another level, or may no longer require remedial support. The levels chart gives important information for the placement of students in remediation groups and should also inform remediation instruction (see the next building block).

FIGURE 5. ASER minimum proficiency levels for reading adapted for the Ghana Partnership for Learning

	Term 1	Term 2	Term 3
B1 G1	Level 2 (Letters)	Level 3 (Words)	Level 4 (Sentences)
B2 G2	Level 4/5 (Sentences/Short Stories)	Level 5 (Short Story)	Level 5/6 (Short Story/Long Story and 1 or more comprehension questions correct)
B3 G3	Level 5 (Short Story)	Level 5/6 (Short Story/Long Story and 1 or more comprehension questions correct)	Level 6 (Long Story and answer 2 comprehension questions correct)

Source: USAID Partnership for Education: Learning, Transition to English: Term 1 Early Grade Reading Materials Training Workshop, Resource Packet. p. 18 (January 2020)

Similarly, the Response to Intervention model utilizes CBM measures to identify which learners are struggling and then determines which of these learners will benefit from short-term intervention (tier 2) and which may need more intensive, specialized support (tier 3). Tutoring programs, on the other hand, may use a variety of models for determining need and identifying student learning levels and grouping. In the Peer Assisted Learning Strategies program in the United States, for example, teachers use CBM or classroom assessments to rank students in terms of reading performance and then pair top-performing students with struggling readers to follow the highly structured peer-learning model.¹⁷ In the America Reads and America Counts program in the United States, participating primary schools identify learners who are struggling in reading or math using their own criteria, and these learners are then tutored individually or in small groups by college students.¹⁸

Core Building Block #3: Focus on Core Curriculum Skills

In many countries, teachers are required to teach the grade-level curriculum and stay on pace to cover the year’s content, making it difficult for them to meet the learning needs of many of their students who might not learn at the same pace. If the core curriculum does not provide appropriate instruction in core FLN skills, then remediation programs will have a limited impact. Remediation efforts should seek not to replace FLN programs but instead to deliver additional instructional support to the learners who are struggling the most.¹⁹ Remediation programs should identify which core skills are most essential for a certain grade—based on the pace of the national curriculum—and are aligned with core curriculum competencies. For example, a core skill such as reading proficiency requires that students decode words and learn the meaning of words they read. In mathematics, helping learners understand place value provides an important foundation for the addition and subtraction of large numbers. These core skills are reflected in both general outcome measures and mastery assessments such as ASER. Models of successful remediation programs, as described here, can inform decisions on the features of remediation that might be most appropriate in different contexts; however, there remain many gaps in the evidence (see Conclusion section below).

WORLD EDUCATION CAMBODIA

In Cambodia, with support from World Education Cambodia, a peer tutoring intervention paired older and younger students during break time to read and play games. Using the Aan Khmer app, a colorful, engaging collection of games and interactive stories, all in Khmer and linked closely to the national reading curriculum, peer tutors supported and guided younger students to choose games and stories from the app and practice key skills.



HOW TARL'S REMEDIATION APPROACH TEACHES CORE SKILLS

READING

TaRL breaks down the skill of reading into five parts that align with ASER assessments: beginner level, letter level, word level, paragraph level, and story level. Each level has a goal for mastery before the student can move to the next level. For the beginner and letter levels, TaRL's aim is to have children decode with ease: to be able to identify individual letters and phonemes so that they have a strong foundation before moving on to the next level (word level), where they should be able to make letter sounds in order to read words. To teach letters and phonemes, TaRL incorporates activities designed to help students decode systematically and to build confidence as they connect sounds with letters and identify the sounds of letter combinations.²⁰ Figure 6 shows a TaRL activity that helps students identify letters and their sounds. This type of activity can be used for varying literacy levels, and can also be done in groups or individually.²¹

FIGURE 6. Alphabet card literacy activity from the Targeted Instruction in Sierra Leone project

ALPHABET CARDS	Materials
	• Letter cards
<ol style="list-style-type: none"> Put pupils in groups of three or four and place a same set of letter cards [a, b, c, d, and e] on each group's table As you place the letters on each group's table, clearly show the letter cards to all the pupils and name and sound-out the letter on each card. Do not ask pupils to repeat the names after you. Say the name (or sound) of a letter and give each group one minute (or less) to find the letter that matches the name or sound you mentioned among the letter cards on their desks. 	
Modifications You can also do this to help with spelling of words. Divide the class in two and give each side all of the letters. Put a word on board and have pupils try	

Source: Targeted Instruction in Sierra Leone Project, *Teaching Manual for Literacy Activity Book*, <https://www.poverty-action.org/sites/default/files/Literacy%20Activity%20Book%20140112.pdf>.

FIGURE 7. Number recognition activity from the Targeted Instruction in Sierra Leone project

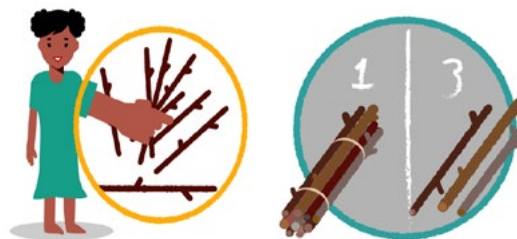
Picture Matching (Counting and Matching 1)	Materials
	• Picture cards • Slates • Poster paper • Parkers
<p>Activity Preparation: Draw the following table on a piece of poster paper. Only use numbers you have taught pupils. Make sure to do it before class so you don't waste any learning time.</p> <ol style="list-style-type: none"> Paste on the board the poster paper with a table like the one to the right. Pick pupils to come up to the board to count the number of objects in the box on the left column. Then, the pupil should match that number with the corresponding number of black dots in the box on the right column. Match the first one to provide pupils an example. You can repeat the activity with different tables like the ones below to help pupils learn simple numbers. Again, prepare these before class so you don't waste any learning time. <p>Note: The pictures provided in the activity above is meant to give you an idea of what is expected. You are encouraged to be creative and draw your own convenient pictures without missing the core points.</p>	
Modifications <ol style="list-style-type: none"> Give pupils slates and allow them to draw the pictures and numbers on their slates. Instead of drawing pictures (which may be more difficult to copy) use tallies or simple shapes like circles and triangles. 	

Source: Targeted Instruction in Sierra Leone Project, *Numeracy Activity Book*, <https://www.poverty-action.org/sites/default/files/Numeracy%20Activity%20book%20140112.pdf>.

MATH

TaRL's approach to teaching core math skills focuses on number recognition, place value, problem solving, and basic math operations such as addition, subtraction, multiplication, and division. Similar to its approach for reading, TaRL's approach to math groups learners into various levels depending on their mathematics ability. The beginner level group teaches learners who cannot yet identify a single number how to identify numbers and count. Activities for this level are designed to make students feel less intimidated by numbers (see Figure 7). Instructors often use number charts to teach learners how to identify numbers, eventually having them read numbers randomly on the chart to confirm that the numbers are not memorized in order but truly recognized. The next level, mathematics level 1, teaches the place value so that students may progress to the higher level, where their understanding of place value is reinforced as they learn to solve basic operations using larger numbers.²² Figure 8 is from a TaRL activity that teaches place value by first teaching learners how and why numbers can be "bundled" by ten and then helping them internalize the concept that a "1" in the "10s" place represents "one bundle of 10."²³

FIGURE 8. Example of a TaRL activity teaching place value



TaRL instructors can adapt activities to their context. TaRL's instructional methods are also an important part of its approach to teaching remediation. In remediation, TaRL instructors engage the class through reading, writing, speaking, and collaborative activities and games that reinforce and build students' conceptual understanding of math.



FIGURE 9. Example of a TaRL activity teaching place values

Practice and Do:

1. Write any number on the board. Read it loudly and slowly to make children understand the place value of each digit in the number.
2. Encourage children to discuss the number they hear and see by talking about which numbers they hear and which place values they hear.
3. Ask children to expand the number using currency notes of appropriate place value.
4. Ask children to place the currency notes in the given place value table according to the numbers' place value.

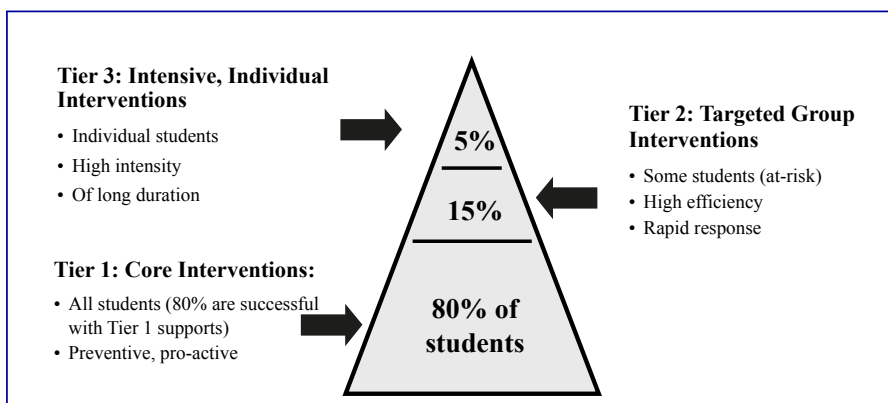
Steps 1 & 2

Steps 3 and 4

Source: Targeted Instruction in Sierra Leone Project, *Numeracy Activity Book*, <https://www.poverty-action.org/sites/default/files/Numeracy%20Activity%20book%20140112.pdf>.

HOW THE RESPONSE TO INTERVENTION REMEDIATION APPROACH TEACHES CORE SKILLS

FIGURE 10. Pyramid of Response to Intervention support



Source: Hands and Voices, "RTI: What It Is, What It Isn't," https://www.handsandvoices.org/articles/education/ed/V10-3_Rti.htm.

Another effective model (generally used in high-income countries) is the Response to Intervention model, a tiered system of support. In this model, tier 1 is the core grade-level classroom instruction; tier 2 is the first layer of support, consisting of targeted group interventions; and tier 3 is an additional layer of support, consisting of intensive individual interventions (see Figure 10). In tier 2, the support occurs in small groups of five to eight students; instructional content is aligned with the standard curriculum. The instruction provides practice and review and reflects best practices in structured pedagogical instruction (see how-to guides in the [Structured Pedagogy](#) series).

Students identified for tier 2 instructional support typically receive an additional 30 minutes of instruction daily or two to three times per week, and tier 2 instructional interventions are usually completed in fewer than 20 weeks. The goal is to provide students with the skills they need to help them catch up to their peers in the general classroom.



Tier 3 instruction is more intensive and is provided to students who do not progress as expected with tier 2 level support. Tier 3 instruction includes individual or small groups of two to three students with intensely focused instruction that is often scheduled for 45–120 minutes daily, often with a teacher with specialized training. Students needing tier 3 instruction often need an alternative instructional approach to the general classroom instruction and a longer period of instructional time to acquire the skills necessary for success. Their goals may look different from those of students in tiers 1 and 2.

The Response to Intervention model assumes that even with high-quality classroom instruction, some students will fall behind in FLN skills. For these students, remedial support can provide them with the skills needed to successfully participate in the general classroom.²⁴ While the Response to Intervention model has not been tested in low- and middle-income countries to our knowledge, evidence of its effectiveness can provide useful insight around the core building blocks needed for remediation.

Core Building Block #4: Training and Support for Teachers and “Leaders of Practice”

Successful remediation interventions identify specific instructors and ensure that they receive training and continual support.²⁵ Instructors can be teachers, but they can also be paraprofessionals, community volunteers, or other education stakeholders. Depending on the context, TaRL uses staff from nongovernmental organizations, government officials, volunteers, teachers, and tutors as instructors for its remediation interventions. TaRL instructors receive a multi-day initial training to learn about TaRL’s approach to remediation. Throughout the period of ongoing remediation, these instructors receive refresher training and continuous mentoring.²⁶ Tutoring programs may similarly use a variety of instructors as tutors, but a research review on tutoring programs in the United States highlights the importance of training and notes that teachers and paraprofessionals result in the highest impact.²⁷ **Regardless of who gives the instruction, there should be a dedicated group of people who are assigned and trained to implement the intervention. Further, these individuals must be supported through regular mentoring.**²⁸

It is critical to ensure that instructors not only learn the pedagogical content and methodology but also learn to accurately administer assessments, record student performance, and determine the appropriate remediation groups for additional instruction. This can require considerable support from coaches and other system actors, as these tools are often quite new to instructors providing remediation support. Instructors also need to know the lesson and activity content for each competency level and the associated instructional materials and assessment measures. Providing refresher trainings and ongoing support on assessment is often essential (see box).²⁹

In the USAID/Ghana Partnership for Learning project, teachers received refresher training each term, with follow-up support by coaches and national core trainers. This support was found to be essential to ensuring that student learning levels were accurately recorded and that the data from progress monitoring were accurate.³⁴

Allowing time for master trainers, who are often government officials, to teach remedial lessons can improve the efficacy of teacher training and the quality of the remediation intervention.³⁰ Further, such a strategy can deepen the commitment and understanding of participating governments officials about the effort involved and the challenges that teachers face during instruction. For example, a TaRL Read India program was developed in partnership with the Indian government and included supervisory government staff serving as teacher mentors. The staff were trained and then required to teach remediation for 15–20 days before they trained teachers and provided on-site support to teachers. These trained government staff became “leaders of practice,”³¹ and their role was critical to successful implementation.

A thorough remediation program will also ensure that coaches receive training in remediation and will support instructors during remediation and during whole-class instruction. Coaches should work with instructors to ensure that students are making progress and that assessment is valid and used effectively to inform learning-level groups.

Remediation programs require a range of human resources that have important cost implications. The Ghana Teacher Community Assistant Initiative, discussed below, provides useful learning for considering the costs and benefits of different remediation models.

LESSONS LEARNED FROM GHANA: COST IMPLICATIONS FOR REMEDIATION MODELS

The Teacher Community Assistant Initiative in Ghana employed four interventions: three that used teacher community assistants (TCAs) for remedial or extra support and one that used traditional teachers who were trained to group students by learning level for targeted instruction one hour per day. TCAs were high school graduates from nearby communities who were asked to serve as teaching assistants in public primary schools throughout the country (grades 1–3). Each of the three



TCA interventions led to a greater increase in test scores than did the fourth intervention, which used traditional teachers; even so, the fourth intervention saw an increase in test scores as well, when combining scores in math and English. All four models have implications for impact, cost, and system requirements (as illustrated in Table 1), which must be considered when designing, adapting, or scaling a remediation intervention.³²

TABLE 1. Cost implications of different remediation strategies

Remedial support strategy	Instructor model	Description ³³	Annual cost per learner ³⁴	Effect size ³⁵
In-school remediation	Teacher community assistant	Remedial classes provided for the weakest grade 1–3 learners during regular school hours	US\$19.60	Academic year 2 follow-up: 0.11 SD Academic year 3 follow-up (2 full years of the intervention): 0.14 SD
After-school remediation	Teacher community assistant	Remedial classes provided for the weakest grade 1–3 learners after regular school hours	US\$19.60	Academic year 2 follow-up: 0.11 SD increase in test scores Academic year 3 follow-up: 0.15 SD increase in test scores
Regular curriculum/ ad hoc support	Teacher community assistant	Learners chosen randomly to receive additional lessons for a few hours during the day	US\$18.77	Academic year 2 follow-up: 0.05 SD increase in test scores Academic year 3 follow-up: 0.08 SD increase in test scores
Targeted instruction (Learning level grouping)	Teacher	Teachers trained to group students by learning level and provide targeted instruction for one hour per day	US\$10.65	Academic year 2 follow-up: 0.06 SD increase in test scores Academic year 3 follow-up: 0.08 increase in test scores

Core Building Block #5: Dedicated Time for Remediation Instruction

When developing a remediation program, the frequency and location of lessons are important decisions. Most remediation models with efficacy data, including TaRL and tier 2 instruction in Response to Intervention models, provide at least three 30-minute sessions per week, with some providing daily lessons. Lessons usually take place in classrooms before or after school or during the school day but outside of normal FLN instruction. Some remediation models plan instruction during school holidays. Remediation programs can also be implemented as learning camps, with short-term intensive boosts of instruction over a 10-day or two-week period (see box on Read India).

READ INDIA

TaRL interventions in Read India consisted of learning camps conducted during school holidays and taught by trained teachers or volunteers who focused on improving the basic reading and math skills of children in grades 3–5 who had fallen behind their peers. Pratham staff worked with government partners and schools to organize the camps and visited children’s homes to share learning



progress and to explain the purpose of the camps. The camps were taught for 40 days, with a 10-day supplemental summer camp, and data on participating children showed significant learning gains beyond one full academic year of growth. These gains persisted for at least two years following the intervention.³⁶

Instruction is often provided in the school setting, but some remediation programs, particularly when scheduled during school holidays, take place in community centers or other non-school settings. However, a meta-analysis of tutoring programs suggests that school-based remediation programs may have greater effects on learning since it is easier in an educational context to monitor and implement them.³⁷

Evidence shows that providing dedicated time outside of the regular FLN class time is important for remediation. According to TaRL research evidence, models that allocate dedicated time for TaRL activities successfully improve learning, while those that provide only teacher training and materials, without dedicated time for the intervention, do not.³⁸ This could be

progress to ensure that they continue to be supported appropriately. As students master the skills that they were struggling with, they can move onto other skills, groups may be revised, and some students may have caught up with their grade-level peers and may “graduate” from the remediation intervention. Under the TaRL model, ASER is administered after a certain period of time, often an academic term, to determine whether students have met their learning goals or require additional instruction. Under the Response to Intervention model, a Response to Intervention team engages in a decision-making process at defined intervals to gauge students’ progress and determine whether any tier 2 students should return to core classroom instruction or might need more intense intervention.³⁹

As mentioned under building block #1, this need for progress monitoring means that any assessment tools selected should be easy to administer, score, and understand. It is useful to have simple record forms to record student data and track progress.

Monitoring students’ progress and ensuring that students can move between levels, and even exit the program when appropriate, are vital for ensuring that students continue to receive support at the right level and don’t become “stuck.”

due to the fact that such models increase the time available for students to practice skills and also help ensure that the remediation actually takes place.

Core Building Block #6: Monitored Progress

Just as assessment is essential for ensuring that students are grouped and provided with instructional support at the appropriate level, it is also important to monitor students’

Core Building Block #7: Government and Community Partnerships

Local government and community partnerships are critical to the success of any remediation program—no such program is viable without having these stakeholders on board. Local community and government support not only adds to the likelihood of a program’s success but also offers a critical building block to ensure its sustainability. There are three primary areas in which such partnerships are essential:

Allocation of time for remediation. Remediation requires that additional time be made available for students who are struggling to learn skills taught in the regular classroom. Additional time not already allocated to core subjects may be available to allocate for remediation during the school day, but this additional instructional time must often be scheduled before or after school. If additional time is going to be built into the school timetable, it usually has to be negotiated with and instituted by the government. This was done successfully in Botswana, where the Ministry of Basic Education worked with Pratham and several nongovernmental organizations to implement after-school remedial math programs in 20% of its primary schools, with the intention to expand the program to all primary schools in the country over the next few years. This intervention was also successful because the government partnered with over 30 stakeholders to create a real-time scaling lab to plan, reflect on, and adjust their approach as they gather data on the project’s progress, crafting a true community coalition for remediation, supporting both teachers and students.⁴⁰ Moreover, if a program plans to conduct short-term



remediation sessions that provide more intensive instruction, it may be more effective to schedule these sessions during a holiday or school break. For example, Zizi Afrique in Kenya successfully implemented 20-day learning camps during the school break for children to receive intensive remediation from teacher assistants, resulting in a 40% increase in student reading levels.⁴¹ Such an extracurricular schedule means that the program will need a location to conduct the remediation sessions and trained instructors to lead them—which may mean making arrangements to open schools or school grounds during these times or securing agreements to use other facilities, such as a village or community center. In all of these cases, community stakeholders need to be engaged in the process of determining the most appropriate schedule and location for sessions.

Ensuring alignment. A successful remediation intervention ensures alignment between core instruction, assessments, and essential skills (the latter of which should be the focus of any and all remediation interventions). Ensuring that the remediation intervention is closely connected to the core FLN instructional program will help teachers to support both, facilitate implementation, and aid children's learning. The [how-to guides on assessment-informed instruction](#) describe the importance of ensuring alignment between instruction and assessments at each level of the education system. Similarly in remediation, it is important to ensure that the assessments used for identifying learners who need additional support are in line with curricular learning goals and that they focus on core skills. By sharing assessment results with government officials, parents, and stakeholders, and engaging them in the process of designing the remediation program, they will recognize the importance of those core skills and the need to support students to master them. This will increase the likelihood that they will support and sustain the intervention.

Preparing and supporting instructors. Whether instructors are paid government teachers or volunteers, remediation programs must provide them ample support in terms of training, mentoring, and physical teaching resources. In this regard, the support of *both* government and community stakeholders is critical to ensuring that remediation instructors have the resources they need to succeed. Any remediation intervention should ensure that instructors receive mentoring support through paid government coaches or trained community volunteers. The provision of training and physical teaching resources also requires government buy-in and support. For example, TaRL typically involves substantial teacher training and mentoring support, as well as materials that are supplementary to regular school textbooks. Successful tutoring models also demand resources, including the training and monitoring of tutors, even if those tutors are volunteers—and peer tutoring models involve the supervision and guidance of teachers, who must likewise be trained.

When governments partner with nongovernmental organizations to develop and implement TaRL, there is a unique level of training and practice that embeds government staff more fully in the model. District- or cluster-level leadership teams receive training on how to implement TaRL and are required to spend at least ten days teaching the program prior to conducting teacher training. Teachers then receive a minimum of ten days of training plus regular mentoring support from these “leaders of practice.”⁴⁷

Conclusion

Remediation, when designed and implemented effectively, can be a valuable tool for increasing equity in student learning. The building blocks described in this guide can provide a strong foundation for creating an effective remediation intervention: using assessment to identify struggling students and group them by competency level; focusing on core skills and monitoring student progress; dedicating time for remediation, whether during, before, or after the school day, or even during a set holiday period; providing training and consistent support for instructors; and ensuring strong government and community partnerships.

One of the biggest challenges in undertaking remediation is that it involves significant investments in terms of time and financial resources—though it is clear that these investments are vital for ensuring that learners who struggle to keep up do not get left behind. There is a growing body of evidence around the best ways to make such investments, which has led to the identification of the seven building blocks discussed here. At the same time, there is a substantial need for further research and, in particular, for more information to be shared about the details of successful remediation interventions. TaRL has led the way in testing and sharing information about its approach; nonetheless, there are still limitations with regard to understanding the benefits of the TaRL approach vis-à-vis other remediation approaches, and many reports on TaRL lack details about program design. Further, tutoring in low- and middle-income countries has received little attention in the research literature; while it is clear that there are many tutoring programs in Africa and elsewhere intended to address equity and help disadvantaged, struggling learners, there is very little reporting of evidence about those programs, their efficacy, or their cost and sustainability. Thus, there are many questions yet to be answered that could help guide decisions for designing effective remediation interventions.



TECHNICAL EXPERTISE NEEDED

Reading and/or mathematics assessment, to advise on and to support development or adaptation of assessment tools.

Reading and/or mathematics instruction, with an emphasis on remediation strategies, to support instructional program design – ideally technical experts involved with the core FLN program.

ADDITIONAL RESOURCES

TARL MODEL

- General TaRL website, which includes links to videos and research studies on TaRL: <https://www.teachingattherightlevel.org/>
- TaRL Reading Activities: <https://www.teachingattherightlevel.org/wp-content/uploads/2018/10/Reading-Activities.pdf>
- TaRL Math Activities: <https://www.teachingattherightlevel.org/wp-content/uploads/2018/09/Mathematics-Activities.pdf>
- J-PAL video providing information on TaRL programs: https://www.youtube.com/watch?v=CxFx_0Xaf_g

RESPONSE TO INTERVENTION MODEL

- Response to Intervention Action Network resources for grades K-5: <http://www.rtinetwork.org/k-5>
- What Works Clearinghouse RtI practice guide: <https://ies.ed.gov/ncee/wwc/PracticeGuide/3>

OTHER MODELS AND RESOURCES

- **Global Proficiency Framework for Reading and Math:** <https://www.edu-links.org/resources/global-proficiency-framework-reading-and-mathematics>
- **What Works Clearinghouse peer-assisted learning strategies:** https://ies.ed.gov/ncee/wwc/Docs/InterventionReports/wwc_pals_060512.pdf
- **Mathematics sample lessons to support intensifying intervention:** <https://intensiveintervention.org/implementation-intervention/math-lessons>
- **Remedial education programs in international contexts:** <https://documents1.worldbank.org/curated/en/564671468151507990/pdf/797830WP0Anali0Box0379789B00PUBLIC0.pdf>
- **“Targeted Instruction in Sierra Leone” project literacy activity book:** <https://www.poverty-action.org/sites/default/files/Literacy%20Activity%20Book%20140112.pdf>
- **“Targeted Instruction in Sierra Leone” project teaching manual for literacy:** <https://www.poverty-action.org/sites/default/files/Literacy%20Manual%20140121.pdf>
- **“Targeted Instruction in Sierra Leone” project numeracy activity book:** <https://www.poverty-action.org/sites/default/files/Numeracy%20Activity%20book%20140112.pdf>
- **“Targeted Instruction in Sierra Leone” project teaching manual for numeracy:** <https://www.poverty-action.org/sites/default/files/Numeracy%20Manual%20140121.pdf>



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