

Integrated Remediation

AN EXPERT VIEW

Introduction

- Learning outcomes were very low before the COVID-19 pandemic. Only 13% of children in sub-Saharan Africa met basic literacy benchmarks at the country level. These low outcomes were inequitably distributed with rural children and ethnic minorities typically doing much worse.
- Learning loss is a substantial problem in many if not most low- and middle-income countries following the COVID-19 pandemic. A recent Patrinos and Vegas (2022) paper shows that the average child in the average country lost on average one half-year of learning while noting that the magnitude of the loss varies widely. Learning loss has worsened the learning crisis in many countries, meaning that the sector is facing a compounded reduction in human capital.
- Given the magnitude of the crisis, we need practical and scalable solutions that are evidence-based and can work at large scale. The GEEAP report, the Learning Poverty report, the second COVID-19 response report and the Learning at Scale study point to three evidence-based solutions to respond to learning loss that countries can use:
 - 1. Structured pedagogy** – structured lesson plans for teachers, student books, teacher training focused on skills, and coaching for teachers done in tightly integrated combination;
 - 2. Teaching at the right level** – grouping students by competency level rather than grade and starting from the current level of the child. The teaching-learning activities use a combination of activities (e.g. listening, speaking, doing, reading and writing) that are done in big groups, small groups and individually;
 - 3. Remediation¹** – using data on student performance to support children who have been left behind and providing them with additional support.
- Critically, countries need to act on these solutions with urgency and with the full force of government structures to support remediation efforts. A half-hearted implementation without government engagement and direction will not work.
- In addition, countries need to make sure these solutions are practical and durable. Some countries have embarked on remediation solutions that are overly burdensome for teachers meaning that they may eventually, outwardly or passively, resist. However, designs exist that will maximize the impact on learning without alienating or overwhelming teachers.

Remediation and Assessment Informed Instruction

- The best teachers use feedback loops during classroom instruction to check students' understanding to inform and adjust their teaching. This can be formal such as quizzes or tests, but far more often is informal such as through simple direct questioning, thumbs up/thumbs down student responses, exit tickets out the door or other simple methods to learn whether students are learning.
- Good remediation begins with basic assessment of students and their learning outcomes, but it does not and must not end there. The best teachers use learning data to adjust the pace of their instruction and to support children who are struggling – this is called assessment informed instruction. This can include reteaching the lesson to the entire class, providing teaching to groups of children who are struggling with the same issue, providing 1 on 1 support to particular children, provide pre-teaching for children who they suspect will struggle if not supported in advance, and include revision lessons to reinforce new skills or revisit forgotten ones.

1. Science of Teaching defines remediation as additional targeted support, complementing the regular classes, for students who require short-term content or skill support to succeed in regular formal programming. For more information about this terminology and similar terms, see the [Remediation How to Guide](#).

- Remediation is connected to '[assessment informed instruction](#)', a set of practices that good teachers utilize in classrooms which have been captured in the Science of Teaching how-to guides, at both the [classroom](#) level and at the [system](#) level.
- Sadly, while assessment informed instruction is good practice, it seldom systematically occurs in classrooms in low- and middle-income countries. This is partly because teachers see their primary job to be teaching content in the textbooks rather than teaching children to improve their learning and partly because materials such as lesson guides and lesson timetables are not structured to provide the remediation windows that teachers need.
- It seems that most children in LMICs have re-entered classrooms a half-year or more behind where they were, but teachers have continued to teach at least a level above students skill set, even more so now than before. This is a disaster in the making.
- Given this mismatch between where children are and where they need to be, remediation is essential and needs to be implemented at large scale before the learning gaps expand and permanently reduce the human capital development of children in the system.

Integrated Remedial Programs: remediation when a Structured Pedagogy program exists

- This section applies to countries that already have an effective structured pedagogy program in place. These structured pedagogy approaches have proven impact on improving learning and integrating a remedial program into these interventions, if designed well, will have positive impact not just as a response to the pandemic but provide longer term solutions to improve learning. Nevertheless, important considerations exist.
- The key task is to **increase instructional time** to consolidate foundational skills without conflicting with the existing structured pedagogy program. For example, in Ghana and Kenya, existing structured pedagogy programs have lesson plans and student books that have evidence of improving outcomes. We should not replace those programs but develop and implement a remediation program that will integrate with these to maximize learning. The goal should be an additional instructional time, up to an hour per day implemented in a way where neither the curriculum body nor the individual teacher replaces the effective structured pedagogy program. Rather, the additional remediation lesson enables better implementation of the structured pedagogy lesson, as they need to be fundamentally integrated. Over the long term, of course, these programs should morph into increased access to pedagogy for those children who struggle and need additional support.
- A remediation program implemented in a country where structured pedagogy programs exist should focus on complementing the existing program by targeting children at their competency level. In order to do this, we recommend drawing from the expanding evidence base of TaRL type programs, tutoring programs, or personalized adaptive learning (PAL) programs, which use technology to target individual skills for specific children.
 - TaRL programs group children by their level and allow teachers to focus on foundational reading and math skills which students need to consolidate. These include VVOB's and TaRL Africa's work in Zambia, TaRL Africa in many African countries and Pratham's seminal work in Read India. There is an increasing amount of evidence, including RCTs, that show impact of these programs. The core of the TaRL approach is that the grade level view of instruction is put aside and the focus is on starting from what skills the children currently have, regardless of grade level.
 - PAL programs use education technology at a 1:1 level to reinforce particular skills children may have missed. These include One billion and Mindspark and others.
- Previous experiences implementing TaRL programs in contexts where structured pedagogy programs already exist have run into a core challenge in some contexts – how to not have the teacher perceive the program as additional work requiring additional time that they do not have available. If they do, then while some teachers may do both programs, most will only do one, reducing the impact of the integrated remedial activity. Designing an integrated remedial program to maximize both the structured pedagogy and TaRL programs is the essential question facing many LMICs in 2022 and 2023.

Key decisions to implement the remedial program effectively

- **How to increase instructional time at the right time of day?** We need more instructional time to support basic skills. Without those skills, the rest of the curriculum will remain increasingly inaccessible to many children. **Where will that time come from and what time of day will the lessons be held?**
 - The ideal short-term pedagogical option is to identify a non-core lesson during the school day which can serve as a remedial lesson in the short term. Through consultation, identify a non-priority subject during which a literacy/numeracy remedial program during the normal school day can take place. For example, in some contexts reading and mathematics are being given priority over social studies or science, given that students need basic literacy and numeracy skills to effectively learn those subjects. This is an ideal option because it reduces the out-of-school hours burden on both teachers and students. It requires, of course, government decision-making based on the understanding that the magnitude of the learning crisis is large enough for substantial measures such as changing the timetable and ensuring that overambitious curricula are updated.
 - An alternative is to increase instructional time by setting up an additional remedial lesson either before the school day or just after lunch (in contexts where children leave at lunch time). The weakness of these options is that children who may need the most support are the most likely to not come early or leave late for a variety of reasons, not least distance and inattention due to them not having had a meal.
 - If these imperfect alternatives are chosen, it is important to have community level discussions to ensure that parents and teachers understand why the program is important and to choose the optimal time in the day for the remedial lessons.
- **How to decide which grades to focus on?** The TaRL remediation approach has not been trialed at every level.
 - Most TaRL programs have focused on Grades 3-5. In India, TaRL approaches have also been used in Grades 6 and above.
 - Kenya implemented the program in Grades 2 to 3 and initial evidence suggests that it is valuable for Grade 2 children as well
 - The grade levels chosen for the deep dive remediation intervention should depend on the skill levels by grade in the country.
- **How to identify children's current learning levels?** Typical instruction in LMICs proceed without consideration as to what skills the children have or don't have. In order to make remediation work, it's important to know what skills children have so that we can target the gaps. The TaRL approach has substantial experience with this:
 - The teacher is provided with a simple set of tools built on India's ASER and Uwezo in Africa. These tools will allow a class teacher to rapidly assess whether the child is at a beginning, letter, word, paragraph or story level for literacy. For numeracy, children will be placed at the beginning, 1 digit number recognition, 2-digit number recognition, subtraction or division levels.
 - Do not underestimate the support that teachers will require to set up this assessment and subsequent analysis. It has proven harder for some teachers than expected so training and support is required. Following this assessment, children can be grouped according to their levels for their remediation lesson.
 - Ensure that the assessment exercise is simple, quick and easy to implement for typical teachers. Some remediation programs have struggled due to this design flaw.
- **How to organize the groups?** The power of remediation is to design programs that focus instruction at precisely the 'right' skill levels of the learners. The experience of Pratham is useful:
 - The central idea is that competency-based groupings allow teachers to work with smaller groups of students on the particular skills they need support on and is much easier for teachers to teach. If the class sizes are very large, there may need to be more than one group formed per competency level.

- Much of Pratham's initial TaRL work focused on children's current assessed competency grouping rather than grade grouping. The central insight is that it does not much matter whether a child is 7, 8, 9 or 10 years old – if they don't know their letter sounds, they need to learn those sounds. So, group children who are at beginner level together regardless of their grade. For example, for the Grade 3-5 learners who have been identified at particular levels, all of the beginner learners in Grades 3, 4 and 5 will be in one group, and all of the letter level learners in Grades 3, 4, and 5 will be in another, and so on. When they gain competency at the level they should be moved to the next level. Children who are 7 or 8 and above often progress very quickly in effective TaRL programs and may be able to move from one group to the next in a matter of days or a few weeks.
- There are some countries where there is very strong push back against using competency-based grouping across grades. It is important to engage with these groups to explain that, despite such grouping being a new idea, it is an important and potentially helpful one, and that this can be a temporary solution to learning loss. If it's entirely impossible, then competency-based groups could potentially be created within grades but this is more difficult for teachers to manage.
- Ensure that the process of moving children up a level is simple and can be done by teachers before the structured class level assessments. Teachers can identify when children have acquired a skill and need to be empowered to move children appropriately. Creating simple opportunities for teachers to move children up levels is essential for these approaches to reduce inequity.
- The focus needs to be on children at the bottom of the distribution so it may be preferable to reduce the class size for the children at the beginner and letter level more than those at the story level. In Zambia, teachers of other primary grades support the catch-up program by splitting up the beginning and letter level groups to a reasonable size. This requires providing sufficient training for these additional teachers. Utilizing reading materials such as supplementary readers and leveled readers is an important contribution to making the time of the more advanced learners useful while allowing the teacher to focus on the struggling learners.
- **How to not overburden teachers?** Recent evidence suggests that some remediation programs are not working because teachers perceive the program as too much additional work. You can see why – if they are being asked to simply teach for an additional hour each day without any other change, it would be perceived by most as too much additional work. There are solutions for this:
 - Create a remedial period within the normal school day by replacing other less critical learning areas on the basis that this is a crisis period so emergency measures need to be taken. This is the key decision and, ideally, it would increase instructional time by up to one hour in the key skills.
 - Ensure that the expectation for the additional instructional time is coming from the highest levels of government rather than any civil society organization or NGO as teachers are more likely to see the importance of these remedial lessons if they see the impetus coming from government.
 - Engage the community in why these additional lessons matter. Some communities might have concerns about having their children away from home for longer periods. But if they understand why this can be helpful and buy into the remedial program, they can be supportive which can in turn influence the teachers to support their children.
 - A truly effective remedial program would not need to be implemented forever. Pratham's evidence shows that with an intensive two-month period many children can learn their letters and move up a level. If the remedial program is developed with a clear target of what learning outcome shifts are expected, then the program can end when the children have reached that milestone. Of course, teachers will continue to utilize assessment informed instruction methods to provide children with additional support.
- **How to develop the materials?** While the remediation materials are relatively simple, they do need to be physically created by teachers and the system. This is a process that can be negotiated by government to decide how much of the remedial materials are centrally procured versus what is developed by the teachers.
 - The Pratham and TaRL Africa evidence shows that successful interventions have some core materials that are developed for teachers such as syllable charts, some group-based activities that are developed by

teachers and some worksheets developed for students. Do not move forward with the remedial program without clarity on the minimum materials required for teachers in order for the program to be effective.

- We recommend scaffolded support to teachers on how to manage the materials and the new lessons, including structured guides. This will reduce the likelihood that teachers do not fully implement the new methodology effectively and ensure utilization of the core instructional methods that matter.
- Children who are at the paragraph and story level would benefit from a set of leveled readers designed for their level. This allows them to practice reading on their own and in groups. In some countries, these could be drawn from existing large scale structured pedagogy programs.
- **How to train and support the mentors?** Mentors are educationists who provide feedback and support to teachers as they implement the remedial program. These mentors might be instructional coaches, inspectors, quality assurance and standards officers or other government officers who have a role in providing support in schools. Senior teachers or department heads could serve this role in contexts where they are provided reduced teaching load to facilitate this support.
 - The Pratham and TaRL Africa programs have both shown evidence that having mentors implement the program themselves in classrooms for at least 3 weeks before providing training to teachers is an important, and for them a mandatory, step in the process.
 - This requires a training plan with sufficient time to do the training of trainers, the mentor training and the two-week practice time before training teachers. We recommend following this practice.
 - Providing mentorship support to teachers is essential to program quality but it requires substantial investment of resources and prioritization of pedagogical quality by these officers.
- **How to train the teachers?** Training programs are not all created equal. Many are ineffective at providing teachers with the skills and motivation they need to implement the new program. In countries with effective structured pedagogy programs already in place, some of the features listed below that enhance teacher engagement and motivation are likely already in place. We recommend remediation program training packages should include:
 - Sufficient modeling done by experienced trainers, who themselves have experience as remediation instructors, so that teachers see what these remedial activities will feel like and look like in their classrooms.
 - Ample practice time so that teachers have the opportunity to do the actual activities that remediation requires. Ideally, this would involve practice with children during training, but may be approximated by having other trainees act as students so that the teachers have to respond to feedback. Critically, the trainees should act out wrong answers children often provide so that teachers know and practice how to respond.
 - Structured support to teachers such as coaching and/or communities of practice that reinforce instructional practices to use in lessons. This may include school-based or cluster-based communities of practice meetings and/or ongoing classroom observation-based coaching done by district officers. Effective structured pedagogy programs may already have these in place so building from existing structures can help integrate remediation programs. Some remedial programs suffer because the initial task of assessment and grouping seems complicated for some teachers, and they are hesitant to move past those tasks. Support to teachers in this aspect is also useful.
- **How to supervise remedial instruction?** We know some teachers may have a difficult time implementing the remedial program given the additional work required to do the assessment and grouping. Therefore, it is imperative that teachers have a mentor observe and support them as they use new methods within the first few weeks of implementation.
 - This means that the mentors should have an observational plan in place to begin classroom observations as soon as the remediation training program ends. This maximizes the likelihood that teachers have feedback early before they decide whether they can do the program.

- Mentoring support should focus on maximizing the amount of time that individual children are physically engaging with texts in reading and doing numeracy work themselves.
- The data from the mentoring support should be used as a means to measure overall program implementation and adapt program support accordingly.
- **How to ensure continuity of pedagogical methods between remediation and structured pedagogy programs?** Given that teachers in the structured pedagogy program have built up pedagogical skills that work to improve learning, it is important for the remedial program to build from that. Here are some suggestions on how:
 - Phonics is often an essential, proven element of structured pedagogy programs: teachers are trained to help children identify the sounds in words and how sounds combine to make words. This is in contrast to the previous 'look and say' approach where students would not learn how the individual letters contribute to decoding a word. It is essential that remedial programs use the same emphasis on phonics and that the instructional routines are similar so that neither teachers nor students are confused.
 - If the structured pedagogy program has leveled readers, supplementary readers, workbooks or textbooks, it is essential to use those materials in the remedial program as well. This will ensure that the structured pedagogy and remedial programs work together efficiently. The remedial program will also then actually provide remediation support, helping children to consolidate their skills, rather than another separate program that confuses the teachers and students.
 - Most effective structured pedagogy approaches have teacher support already in place. These include mentoring, coaching, communities of practice or some combination of these efforts. If these structures already exist from the structured pedagogy program then this will make the path to scale significantly easier as the system can incorporate support to the remedial program.
- **How to use a scaffolded scale-up approach to refine remediation programs before national roll out?** Remediation is urgently and desperately needed across countries. On the other hand, even countries with high capacity will not immediately know how to effectively implement these remediation programs in ways that will work well. It is, therefore, essential to pilot the remediation program before national rollout. How do you do that while also moving to scale quickly?
 - The simplest method is to show that it isn't practical to go national all at once. We need to build up the training corps of mentors and that takes time.
 - We recommend using several hundred schools spread across the country in the initial scaffolded roll out. This allows the scale of the intervention to be large enough to be meaningful but also enough time to learn from it, and that it is focused on whole sub-district or district levels to provide demonstration cases for replication.
 - Most TaRL interventions have shown impact use pre- and post-intervention but seldom have control groups. In order to learn the most from the remedial program roll out, we encourage you to use control groups to compare the normal gains from the structured pedagogy program with the remedial program additional gains. This will also allow you to test tweaks to the approach through testing different modalities. Staggered roll-out can provide an opportunity to have control groups in early phases without permanently withholding treatment from any schools.
 - Make sure that the remedial program collects data at the classroom, school and larger levels so that you can learn and refine before national roll out. It is possible to collect data that will help with the learning that the country needs to do substantially before any program is rolled out nationally.

Conclusion

- Learning outcomes are heartbreakingly low in many low and middle-income countries. Something must be done urgently to address this.
- In order to have learning outcomes become significantly better, things need to be done differently. And very differently, not just on the margins. This is a crisis, and we need a crisis response.
- A well designed, government led, evidenced based integrated remedial program provides an ideal opportunity to help countries respond to learning loss and turn towards learning recovery.
- Our core crisis response recommendations are:
 1. Assess children to understand the extent of the learning loss. This data will allow for a better-designed remediation program.
 2. If a country does not have an evidence-based literacy and numeracy program in place in primary grades, implement structured pedagogy.
 3. If the country has not gained traction with structured pedagogy, implement TaRL initially and then transition to a structured pedagogy program. But even the TaRL program would benefit from a structured approach to materials, training, and ongoing teacher support.
 4. If a structured pedagogy program exists, design a remedial program that integrates effectively into the structured pedagogy program so as to not cause confusion or teachers to feel overwhelmed.
 5. Group children based on their current competency levels for remediation, and ensure that children are regrouped appropriately as they progress.
 6. Support teachers to remediate learning loss by providing additional instructional time on core skills, ideally in the normal school day, and provide additional teaching and learning materials for remediation.
 7. Ensure teachers are supported to implement the remediation program using instructional support systems from effective structured pedagogy systems that exist. If not, invest in teacher support structures such as coaching and communities of practice.