



# ITERATIVE DESIGN

Getting education right for children in low-resourced countries requires careful research, astute design, disciplined implementation, and, importantly, rapid cycle iteration.

As access to universal education becomes a reality for more children across the globe, it is tempting to think that learning follows a simple pattern: build schools, hire teachers, and children will learn. Yet the fact that nine out of ten children in low-income countries cannot read by age 10 is proof that delivering effective education, especially in low-resourced settings, is hard.<sup>1</sup> Teaching children who are often the first in their families to learn to read is an extraordinarily daunting task — especially if doing so in a language they don't speak at home, with minimally trained teachers, and little to no classroom materials. Adding to these challenges is the fact that many, if not most, of the international education interventions set up to improve school learning fail. An analysis of global education interventions by the Global Education Evidence Advisory Panel (GEEAP) found that 40 percent of rigorously evaluated programs had no learning impact of any kind.<sup>2</sup>



## 3 of 5

of the largest global funders of basic education have **no evidence** of impact at scale<sup>3</sup>

<sup>1</sup> Azevedo et al., "Will Every Child," 18.

<sup>2</sup> Luminos Fund, "Measuring Transformative Learning."

<sup>3</sup> Stern, "Learning at Scale."

## Education reform is not solved primarily through one magic formula that is guaranteed to deliver the same impact to every child, regardless of context.

The Luminos Fund knows that reforming global education is a complex development challenge that requires a highly intensive implementation approach like ours. Unlike, say, protecting people from polio, education reform is not solved primarily through one magic formula that is guaranteed to deliver the same impact to every child, regardless of context. The best vaccinations provide immunity against a disease whether the person lives in the United States or in The Gambia. In contrast, effective global learning programs for children recognize that the impact on children's learning is a result of multiple variables and contexts best suited to an iterative design approach.

Getting education right for children in low-resourced countries requires careful research, astute design, disciplined implementation, and, importantly, rapid cycle iteration. Yet all too often, the dominant model of engagement for non-governmental organizations (NGOs) in global education development initiatives — which are firmly entrenched in both organizational cultures and donor funding structures — is what Ann Mei Chang, Lean Impact author and former USAID Chief Innovation Officer, refers to as the “enforced waterfall” model.<sup>4</sup> With this model, organizations create detailed end-to-end design plans for a program, but these plans are created in the abstract, often with little specific experience in the context. Organizations then adhere to the design plan through implementation and scaling, and donors fund those plans and measure success by adherence to the plan, not by learning gains. Innovation funds created by donors can reinforce this point-in-time conceptualization of innovation. For example, the “smart buys” (meaning cost-effective interventions) which have been identified by GEEAP provide a useful guide to what interventions have the potential to succeed, but there is a risk that people see these approaches as “silver bullets” which will always work regardless of implementation quality.<sup>5</sup>

At Luminos, we know that effective education projects are those that are rooted in iterative design. Iterative design is focused on continuous improvement and refinement, and has a rich history that spans multiple disciplines.<sup>6</sup> In this approach, organizations continuously evaluate their program implementation to assess if students are learning and make ongoing adjustments accordingly.<sup>7</sup> For education projects and organizations, impact means students are learning, and the depth of that impact is the depth of a student's learning gains. In a 2022 policy paper on global education initiatives, Research on Improving Systems of Education (RISE) program researchers found that “a shared trait of successful efforts is that they build in the capability to continually adapt to



<sup>4</sup> Chang, *Lean Impact*, 21.

<sup>5</sup> Akyeampong et al., *2023 Cost-Effective Approaches*.

<sup>6</sup> Larman and Basili, “Iterative and Incremental.”

<sup>7</sup> Harvard Kennedy School, “What is PDIA?”



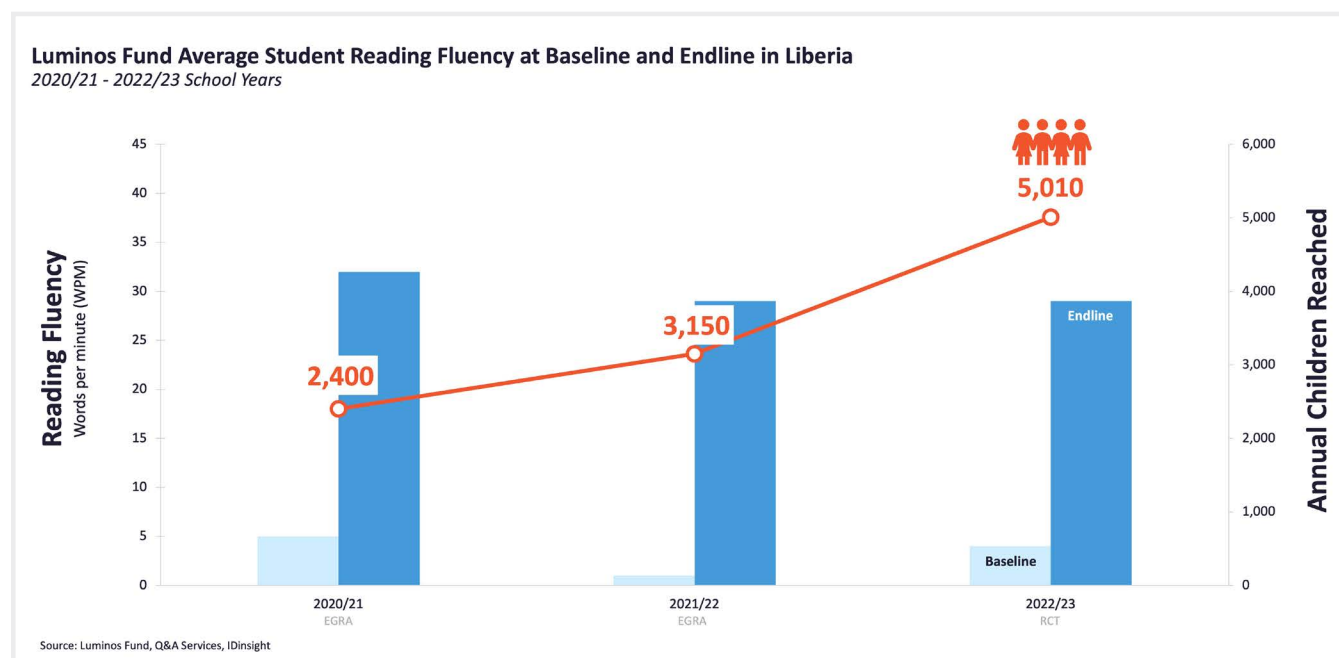
the circumstances.”<sup>8</sup> Adherents of iterative design know that the best products are not a point-in-time breakthrough but are instead the result of the “long, hard slog” of innovation and iteration.<sup>9</sup>

For the Luminos Fund, iterative design is a core component of our identity and approach. We operate as a learning organization in our commitment to “continuously transform” ourselves as we learn new information about our programs.<sup>10</sup> “We don’t consider our approach to be a model, but rather a learning process,” says Caitlin Baron, Luminos CEO. “We never set it and forget it with our programming. We are always on the hook for iterating for maximum impact.” Recent research results of our work demonstrate the powerful impact of our approach on student learning. A 2023 randomized control trial (RCT) of our Liberia program found that, in the 2022–23 school year, Luminos students read four times more words per minute and showed a two times increase in addition and numeracy skills by the end of our one-year program, compared to the control group.<sup>11</sup> These substantial learning gains occurred even as our program reach in Liberia doubled in scale.

“We don’t consider our approach to be a model, but rather a learning process. We never set it and forget it with our programming. We are always on the hook for iterating for maximum impact.”

Caitlin Baron, CEO, the Luminos Fund

Luminos believes that the most important reason for our impact is our culture and capacity for iterative design. In this element of the [Luminos Method](#), we detail how we have established this culture and capacity. This includes a deep commitment to an ongoing journey of program design, learning, and adaptation; a singular mission and consistent classroom-level implementation; data and analytics expertise; a staff commitment to excellence and a staffing structure to match; and community partners and government officials who are on the iterative journey with us. In sharing our experience, we fulfill another key element of learning organizations, which is to widely share our solutions with all those who are invested in figuring out what works in global education reform.



8 Pritchett, Newman, and Silberstein, *Focus to Flourish*, 31.

9 Chang, *Lean Impact*, 2.

10 ELM Learning, “Building a Learning Organization.”

11 Mokobi et al., *Luminos Program Impact*, 4.





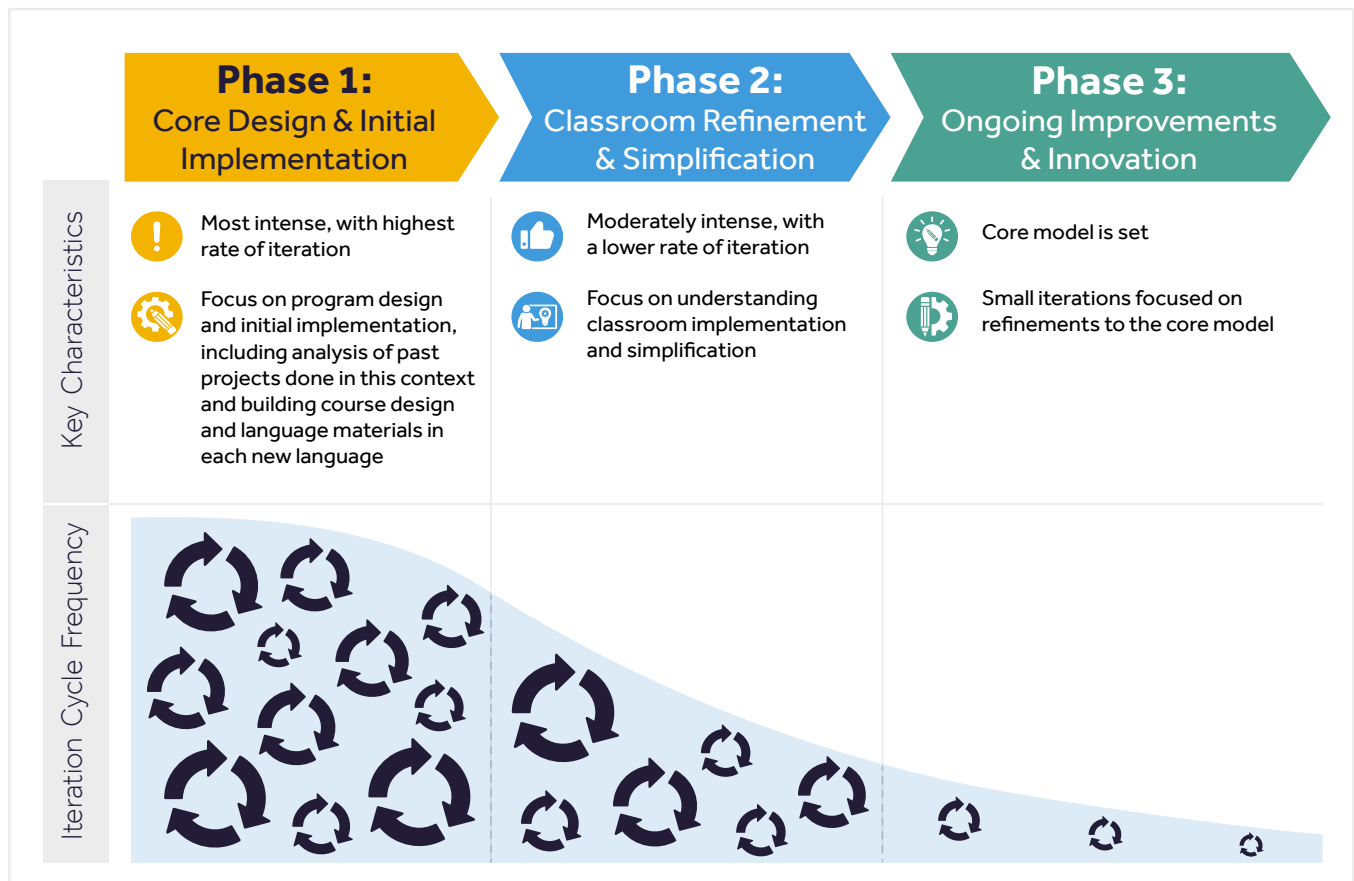
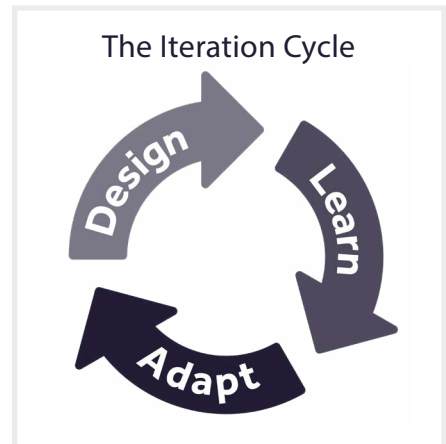
# Three-Phase Process

## Our Liberia Program Iteration Journey

Iterative design is rooted in the principles of continuous improvement and refinement. Luminos' programming runs on an ongoing cycle of designing, learning, and adapting. The frequency at which we repeat this iteration cycle and the magnitude of the changes vary year-over-year, but in general, the frequency and intensity is highest in phase one, medium in phase two, and then drops significantly in ongoing iteration cycles thereafter.

Our journey in Liberia represents the quintessential iterative experience at Luminos. We launched the first iteration of the Luminos program in 2016, in partnership with another international non-governmental organization (INGO). This iteration was based, in part, on our Ethiopia program model. In 2017, we took over the program entirely and redesigned our approach, changing nearly every element of the program.

In the 2018–19 school year, we fully implemented the new curriculum, documented what worked, and made adjustments to what did not. By 2019, Luminos had “stabilized the model,” as former Luminos Senior Director Nikita Khosla noted, by focusing on “refinements and incremental adaptations over big changes” to a program that was, by then, demonstrating a tremendous impact on children’s literacy and numeracy results.





## Phase 1: Core Design & Initial Implementation (2017–18)

Conducted a comprehensive assessment to determine the learning baseline for the children we would serve. Based on this context, we determined that the curriculum would need to start at a very basic level since initial assessments of the program showed that children were behind in the curriculum and were not learning to read but had instead memorized words.

Based on recommendations from community partners, we brought on an expert consultant to develop a phonics-based curriculum. We also condensed an existing curriculum (Liberia Reads!) from three years to ten months.

Initial curriculum focused on literacy and numeracy only and stripped some of the “fun” activities from our Ethiopia model in order to get in as much learning as possible. Initial curriculum taught twenty words a week, with one-third of the day focused on literacy and the rest on numeracy.

Developed a detailed teacher’s guide to accompany the curriculum, with very little room for innovation based on our assessments of teacher needs. We brought in trainers for the teachers to address the gaps during the current school year.

Began to think through another redesign for the next school year.



Student in the Liberia program in 2018. (Photo by the Luminos Fund)



## Phase 2: Classroom Refinement & Simplification (2018–19)



Play-based activity in 2019. (Photo by Carielle Doe for the Luminos Fund)

Realized we were asking too much of the children, and reduced new words taught per week from twenty to ten. Based on teacher feedback, we reintroduced some play activities into the school day and allowed for more innovation. Rather than produce a ten-month curriculum, we produced a series of three-month curriculums to allow for the incorporation of revisions after each round.

Retrained the most skilled teachers and let go of others who were not the right fit for the program.

To recruit more qualified teachers, we developed our own internal assessment mechanism for hires and administered a skills and aptitude test, expanded our training for teachers, and increased teacher salaries.



• Introduced continuous monitoring and data collection, with increased monitoring during big changes.

• After the first five weeks of the program, we revised the curriculum based on monitoring and assessments, including:

- Removing and replacing words, especially those that would not be used in Liberia,
- Restructuring some activities to make them simpler, and
- Revising child assessments to give them more time to complete the test.

• Offered more extensive training to our Luminos staff, community partners, and teachers on the new curriculum, including supplemental trainings throughout the year on particular topics.



### Phase 3: Ongoing Improvements & Innovation (2019– ongoing)

• The core curriculum was set and showing results: A 2018–19 assessment showed children were able to read forty words per minute.

• Still room for improvement: Excellent overall RCT study results also revealed a gap in phonics; this knowledge will inform our iterations for the next school year.



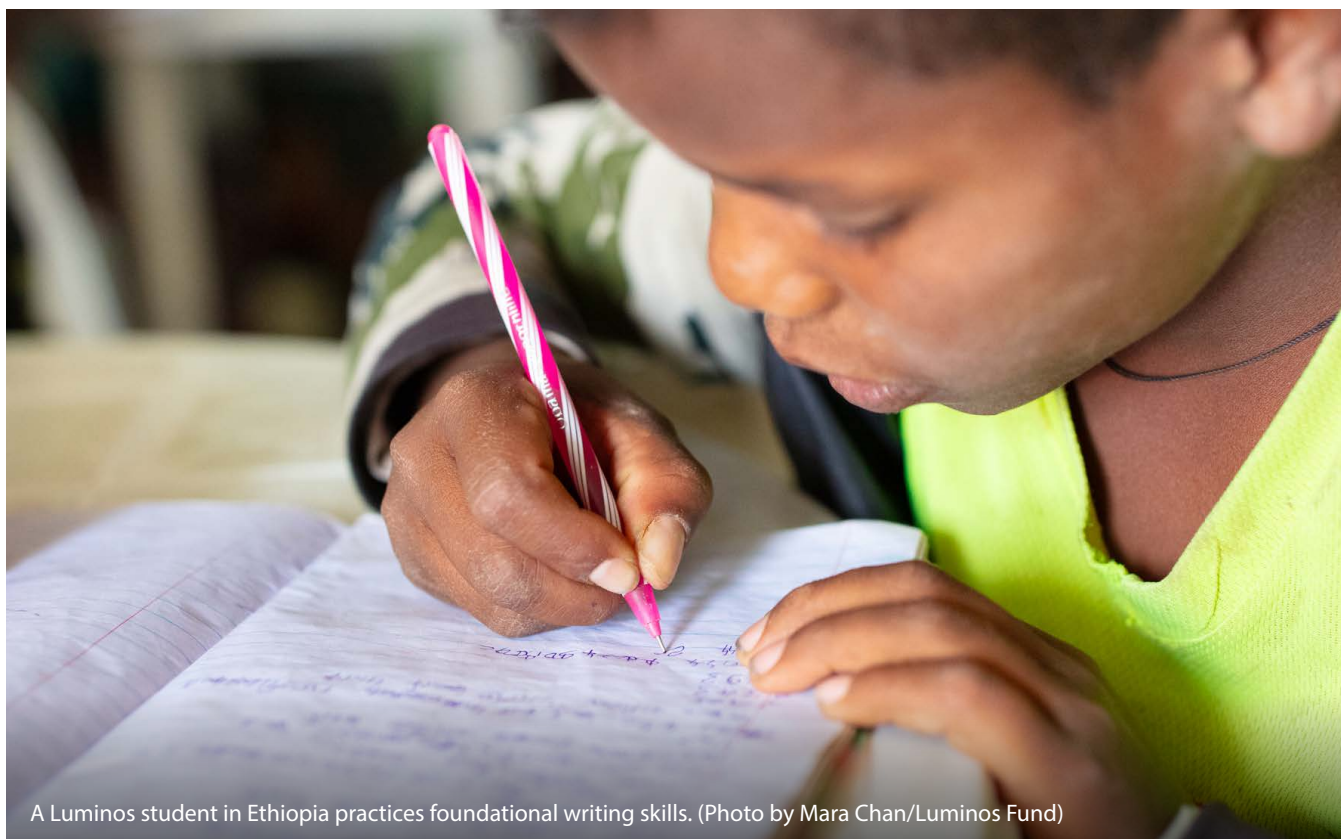
Students practice sounding out words in early 2023. (Photo by Mara Chan/Luminos Fund)



## Summary

Teaching children foundational reading, writing, and math is not easy. Successful education initiatives are those that marry the best of global learning science and local insights and apply an iterative approach to implementation. At Luminos, we have identified six key capabilities needed to create our organizational culture of iterative design:

- A deep commitment to an ongoing journey: Iterative design is rooted in the principles of continuous improvement and refinement and takes the form of an ongoing cycle of designing, learning, and adapting.
- A focus on one thing — foundational learning — and doing it well: A singular focus enables iteration, allowing us to hone in on the adjustments and adaptations needed to achieve maximum impact for our students.
- Consistent classroom-level implementation: Our structured pedagogy provides us with an important framework to ground the work, and makes it easy for us to test, measure, and track what is working and what is not.
- Data collection and analytics: The ability to quickly and accurately collect data, and then process and learn from that data, is crucial to making adaptations.
- A staff committed to excellence, and a staffing structure to match: Our staff are curious by nature, are dedicated to learning what works, and take the initiative to problem solve.
- Extensive communication and consensus building with partners: An iterative approach is often new for community and government partners. Sharing data on actual student learning levels and inviting collaboration on solutions is critical for bringing partners along on the iterative design journey.



A Luminos student in Ethiopia practices foundational writing skills. (Photo by Mara Chan/Luminos Fund)

# Our Approach

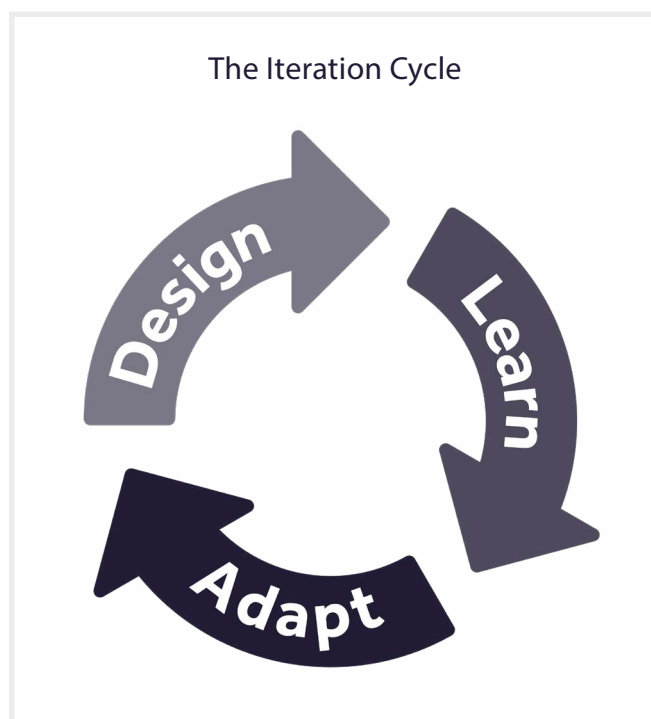
## A Deep Commitment to an Ongoing Journey

As a February 2024 report on strong education initiatives from McKinsey & Company emphasizes, “Roll out what works, but create space for innovation.”<sup>12</sup> Iteration, which necessitates continuous improvement and refinement, has always been a part of the Luminos program. Starting in 2016, when we brought our successful Ethiopia program to Liberia and could not replicate the same results, Luminos realized how important iterating on our program design would be to achieve positive learning outcomes in the diverse communities we serve. Our approach gets results: a 2023 RCT of our Liberia program confirmed that children make dramatic learning gains in our classroom. Luminos students progressed from reading an average of four words per minute (WPM) at the start of the program to twenty-nine WPM by the end of the program. These substantial learning gains occurred even as our program doubled in scale, from serving 2,400 students in the 2020-21 school year to 5,010 students in the 2022-23 school year.<sup>13</sup>

### Design, Learn, Adapt

At Luminos, our iterative process is an ongoing cycle with three key phases: design, learn, adapt. In the design phase, typically a six-month process, we invest proper time and space for the creation of a new program. In this phase, Luminos has two to three staff members working full-time on design. Our work starts with deep research about the context within which we are operating. “We get as smart as we can about everything,” says Caitlin Baron, Luminos’ CEO. “This includes taking all existing data on what has worked in the context in the past and adding our analysis to act upon.”

From the moment our program is launched in the classroom, Luminos is iterating on our approach in response to the data we collect. Through classroom observations, student assessments, and external evaluations, we know, in relatively real time, what is working and what needs adjusting (see the Data Collection and Analytics section for more details). Our learnings inform the nature, extent, and pace of our program adaptations. These adaptations occur across all aspects of our programming, including curriculum design, assessments, service delivery program support, and staffing capacity and structures. Once one cycle ends, the next one begins.



#### QUICK TIP

There are only so many changes a program can sustain at one time. When identifying implementation gaps, focus on only one or two of the most important things to change first. Successful iteration happens step by step, not ten to twenty steps at a time.

<sup>12</sup> Bryant et al., *Spark & Sustain*, 3.

<sup>13</sup> Mokobi et al., *Luminos Program Impact*, 3.



Constantly improving our program is important for achieving excellence as well as scale. Luminos wants the success of our program to be adopted by the local government so that we can reach millions of children. “Being able to shift our approach to suit different geographies and cultures multiplies our impact,” says Dr. Alemayehu Hailu Gebre, Luminos’ Senior Director of Programs in Ethiopia. “We design our program to fit into the reality of the context we operate in, to bring our outcomes to children regardless of their circumstances.”

“Being able to shift our approach to suit different geographies and cultures multiplies our impact. We design our program to fit into the reality of the context we operate in, to bring our outcomes to children regardless of their circumstances.”

Dr. Alemayehu Hailu Gebre, Luminos Senior Director of Programs in Ethiopia



## RECOMMENDATIONS

Recommendations for cultivating a deep commitment to the ongoing journey of iterative design:



Begin your design process with extensive research on the context you are entering.



Be realistic about the pace of change: even in accelerated programs, progress takes patience.



Pace the rate and scale of your big changes to align with your internal staff capacity.

## A Focus on Doing One Thing — Foundational Learning — and Doing it Exceptionally Well

At Luminos, we do one thing: provide [joyful](#), foundational learning to marginalized children. We practice what Ann Mei Chang advises: to “fall in love with the problem, not your solution.”<sup>14</sup> Solving puzzles takes time and focus, and delivering high quality education to children at the margins is one of the world’s greatest puzzles. Our laser focus allows us to deliver programming at a high level of excellence. It also enables iteration. We have the space to go deep on getting one thing right, and being able to do that same thing in different places, across geographies. “If we were focused on offering fifty different kinds of programs and trying to iterate on them all simultaneously, we would not be able to pull it off,” says Caitlin Baron. The sole focus on foundational learning also enables maximum impact. As the RCT of our Liberia program noted, our impact was “similar in size for girls vs boys, younger vs older children, children who were previously enrolled in school vs dropouts, and children who started with lower baseline learning levels vs higher baseline learning levels.”<sup>15</sup> In other words, our



### QUICK TIP

While the needs of children in the developing world are vast, they cannot all be effectively addressed simultaneously by one INGO. Focusing on what you do best allows you the time and capacity to refine your approach until you reach excellence.

<sup>14</sup> Chang, *Lean Impact*, 3.

<sup>15</sup> Mokobi et al., *Luminos Program Impact*, 4.



relentless iterative approach to foundational learning creates a program that benefits children across various populations. Right now, we focus on primary school-age, out-of-school children, but we can turn this mastery of building foundational learning to populations like students in government schools, older children, and others.

This focus also means we need to sometimes say no to expanding into other connected, but distinct, service delivery elements. For example, in Liberia, we introduced a midday meal to our program to accommodate children's hunger during long days of learning. Initially, Luminos ran the midday meal program, from procurement to meal delivery — an expensive and logistically complicated process. Running a meal delivery program for thousands of children each year — many of whom were located in remote areas — was not our area of expertise. “We spent so much time on figuring out school meals, and we started to spend less time on things focused squarely on learning outcomes,” says James Earl Kiawoin, Luminos’ Liberia Country Manager. Luminos learned of an existing organization focusing on meal delivery with whom we could partner with to outsource the midday meal. This school meals organization required its partner organizations to be situated in a government school building. While Luminos typically ran its programming in a mix of government and community structures, the opportunity presented by the school meals partner was worth moving all of its classrooms to government buildings. “We made the decision to move because of the school meals program,” says James Earl Kiawoin, “but we also realized that we are helping kids transition to a new school because they are in classrooms that will be like theirs when they go to school.”

Our relentless iterative approach to foundational learning creates a program that benefits children across various populations.



In partnership with an existing organization, Luminos provides hot midday meals, such as rice and beans, to students in Liberia. (Photo by Mara Chan/Luminos Fund)



### RECOMMENDATIONS

Recommendations for focusing on doing one thing exceptionally well:



As you grow, consider applying your mastery to other populations with similar needs.



For program service needs outside your focus area, partner with organizations that have the right expertise and capacity.

## Consistent Classroom-Level Implementation



### QUICK TIP

While iterative design involves ongoing adjustments, you need a strong framework to ground the work.



Luminos student Konjit completes an exercise set by her teacher. (Photo by Michael Stulman/Luminos Fund)

“Because everything is structured, you can easily measure where children are at versus where they are supposed to be, and make adjustments accordingly. That is powerful.”

Ernesta Orlovaité, Luminos Director of Impact

hard to know what to change if your data shows student results are lagging.” By laying out clear expectations for children’s learning, our structured pedagogy, combined with our classroom observations and other data collection, allows us to know immediately if we are meeting our learning targets or not. “Because everything is structured,” says Ernesta Orlovaité, Luminos’ Director of Impact, “you can easily measure where children are at versus where they are supposed to be, and make adjustments accordingly. That is powerful.”

Luminos’ accelerated learning program is centered on building foundational reading, writing, and math skills. In pursuit of learning and in support of our [community teachers](#), we apply a structured pedagogical approach to our curriculum. Structured pedagogy involves breaking down complex concepts into smaller, manageable units and presenting them in a logical sequence in order to progressively build upon a child’s foundational knowledge. Luminos’ approach incorporates a detailed curriculum, instructional materials, and well-defined learning objectives to guide our teachers. For example, when teaching students to read, we begin our [phonics-based approach](#) by ensuring students can identify letters, then the letter sounds, before they begin blending those sounds together in words of increasingly greater complexity and ramp up to reading individual words and then words in sentences.

Our structured pedagogy provides us with an important framework and makes it easy for us to track how consistently our curriculum is implemented across classrooms and whether individual students or whole classrooms are on track with set learning targets. “Our program is very intentional,” says Caitlin Baron. “Because there is a clear model we are implementing, we can know if it is working. In a world where every teacher is doing something different, it’s



### RECOMMENDATIONS

#### Recommendations for consistent classroom-level implementation:



Establish clearly defined learning objectives against which to measure student learning.

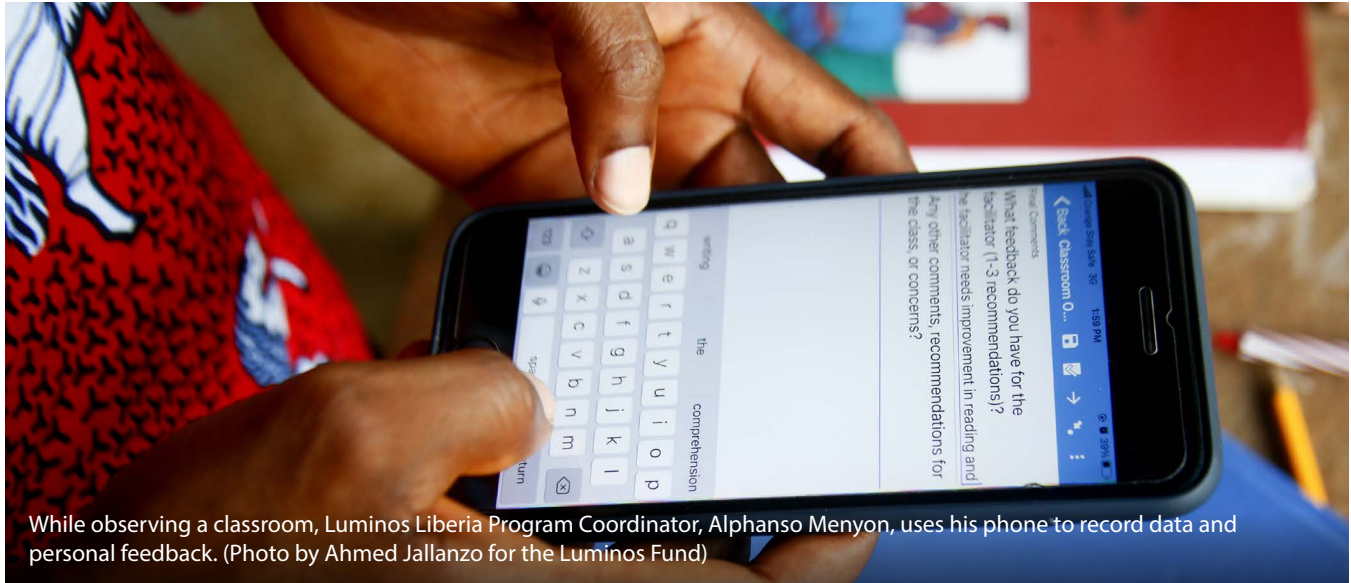


Provide detailed teacher guides that support community teachers who are new to this type of role.



Rely on a structured pedagogy to track the consistency of implementation across classrooms.





While observing a classroom, Luminos Liberia Program Coordinator, Alphanso Menyon, uses his phone to record data and personal feedback. (Photo by Ahmed Jallanzo for the Luminos Fund)

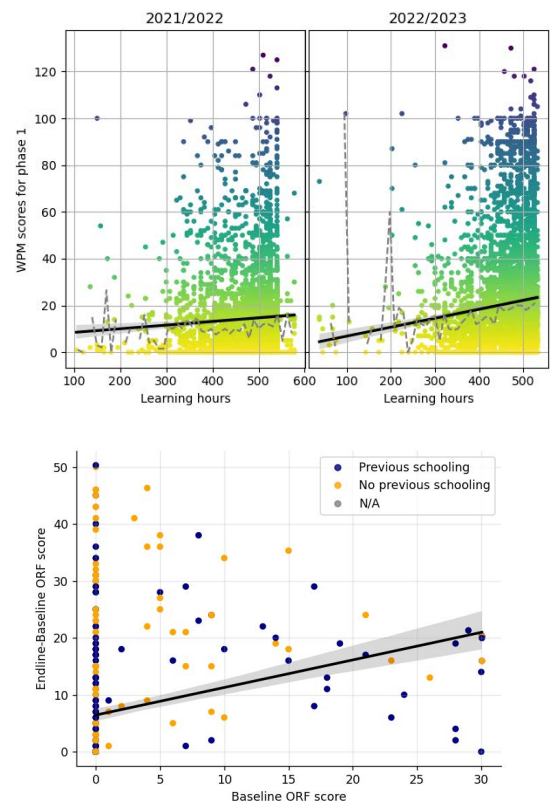
## Data Collection and Analytics

Data has always been an integral part of Luminos. We have built up our internal staff capacity over time, which allows us to collect, process, and visualize all the data we collect. Across all our program sites, we collect data through classroom observations made by supervisors and Luminos staff, student assessments, and external program evaluations. This data provides a clear picture of what is and is not working, and it enables us to focus our adjustments accordingly.

### Building Out a Data Team

High quality data systems require technology, but, more importantly, they involve building up the staff capacity for data collection and analysis. This means training frontline staff to collect accurate data and supporting program leaders to interpret and take action on that data. In 2017, as we ramped up our data collection and analysis, we hired our first monitoring and evaluation lead. As our needs grew, we formalized a data team (which is part of our Impact Team) and hired a data scientist along with six staff members who work on our data team full time in service of all our programs. In addition, we have at least one data lead in each country office who can quickly clean and process data sets. Our Impact Team analyzes the data and creates visualizations that help the program team understand what the data is

### Sample Data Visualizations Built out by our Impact Team to Better Understand Learning Progress



telling us and adapt in the classrooms accordingly. These data tools have included dashboards and other real-time data tools that help programs understand classroom outcomes in relatively real time.

## Essential Data Collection Practices

Luminos collects three primary data sets: student assessments, classroom observations, and external evaluations.

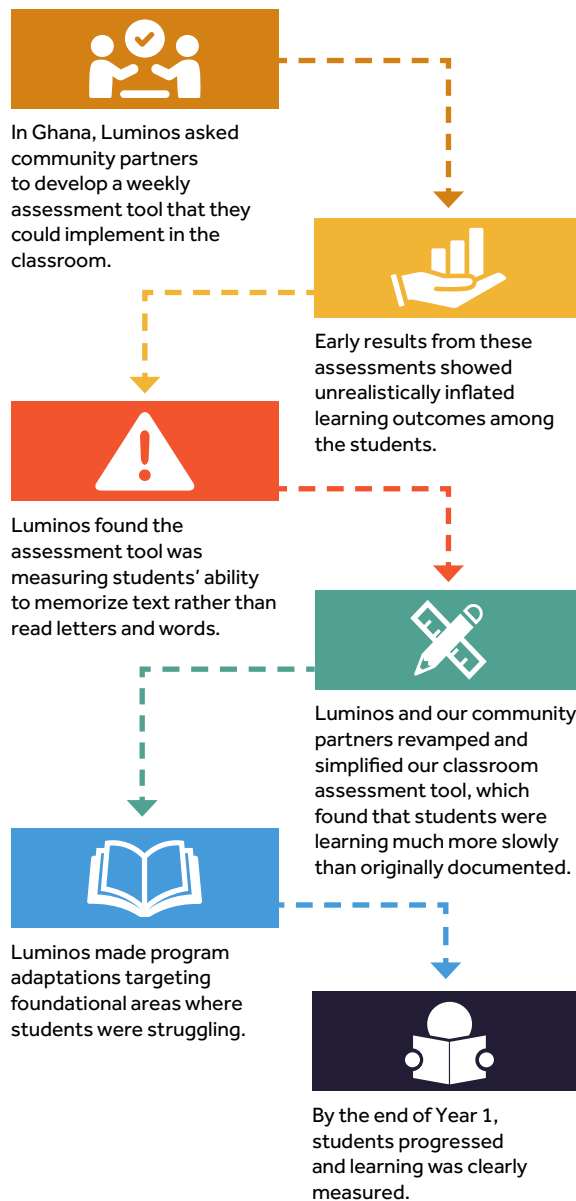
### Student Assessments

Student assessments are quick, frequent, and help to inform individual classroom and teacher-level adjustments. In Luminos programs, they are collected on a weekly basis. Luminos staff and/or our community partners assess at least three randomly selected students a week, and this assessment provides a marker for the pace of learning in the classroom. We have learned the hard way though that getting assessment instruments right is no mean feat.

In our first year in Ghana, wanting to leverage the extensive experience of our community partners, we relied on their approach to assessment. The early data showed a significant and steady rise in learning among the students, but these results did not match what we were seeing for ourselves in the classroom. Noticing the discrepancy, Luminos studied implementation of the assessments and realized that the reliance on using existing books in the classroom opened up the possibility for children to have memorized the text on which their reading abilities were being assessed.

“A poorly designed assessment procedure led us to a false sense of security,” says Ernesta Orlovaité, Luminos’ Director of Impact. After this lesson, Luminos revamped the classroom assessment tool. To measure learning over memorization, children were asked to read fresh sequences of text rather than relying on the books in the classroom. With this new tool, Luminos started its assessment over again and found that students were learning much more slowly than the data had previously suggested. “Our bubble burst, and it was a very painful moment,” says Ernesta Orlovaité. “It also means I tell this story whenever we talk about student assessments. The silver lining is that we will never make that mistake again.” While learning progress was slow at first, working from

## Case Study: Iterating on Student Assessments in Ghana



### QUICK TIP

Do not wait for the results of external evaluations to make changes to your program. When your internal data tracking reveals gaps in student learning outcomes, take steps in real time to define and implement solutions.



A teacher in the Sidama region of Ethiopia leading a lesson. (Photo by Michael Stulman/Luminos Fund)

accurate assessment data enabled us to make the necessary program adaptations to correctly tailor instruction to student learning levels. Importantly, by the end of the year, internal assessments tracked reasonably closely with external evaluations, and above all, we had clear proof that students were learning.

### Classroom Observations

Classroom observations offer more in-depth information that informs our program and classroom-level adjustments. They occur less frequently than student assessments and help Luminos to determine, among other things, whether our program is being implemented as intended. For example, in the 2022–23 school year in Ethiopia, Luminos piloted a teacher

resource guide — referred to as a teacher playbook — in forty classrooms in the Sidama region. The playbook provided a robust structure for each four-hour school day. The structure emphasized the core importance of literacy and numeracy and was based on evidence that children have to go “deep” on literacy and numeracy so they can go “fast” on broader learning thereafter. The curriculum also recognized student interest in other topics. From Monday–Thursday, teachers would spend two hours each on literacy and numeracy. On Fridays, teachers would spend an hour each on literacy, numeracy, environmental science, and English. Teachers were extensively trained for ten days on the new playbook prior to the start of the school year.

Every time Luminos introduces a significant program change, we step up our classroom monitoring accordingly. A few weeks into the implementation of the teacher’s playbook, Luminos staff were taking part in classroom observations and noticed that teachers were not following the playbook (for example, Luminos staff observed classroom lessons on environmental science taking place on a Tuesday rather than a Friday). These observations provided Luminos with “a big clue that the core goals of our playbook — to provide more structure to our limited classroom time with students — was not being achieved,” says Dr. Caitlin Collis, Luminos’ Associate Director of Programs. In conversations with our [community partners](#) and trainers, Luminos realized that the playbook represented a bigger shift than perhaps we had initially recognized. It was our first time implementing a playbook in a program that had been running at scale for many years. Changing an existing practice is harder than having it down from the beginning. We needed to do a better job of laying the groundwork for the value of the playbook. This involved providing more robust and comprehensive training and support for both our community partners



Students in the Sidama region of Ethiopia sing an educational song during class. (Photo by Michael Stulman/Luminos Fund)



#### QUICK TIP

Classroom observations allow you to assess how effectively a program is being implemented. When you introduce a big programmatic change, step up your classroom monitoring to detect implementation issues early on.





“A poorly designed assessment procedure led us to a false sense of security. Our bubble burst, and it was a very painful moment. It also means I tell this story whenever we talk about student assessments. The silver lining is that we will never make that mistake again.”

Ernesta Orlovaité, Luminos Director of Impact



A student practices reading during a classroom observation visit conducted by IDinsight at the start of the 2022-23 school year in Liberia. (Photo by John Healey)

and our teachers, including five days of training for Luminos staff and our community partners, five days of initial teacher training, two days of supplemental teacher training, and five days of teacher training for the second phase of the curriculum. In addition, Luminos increased the coaching support for its teachers in the classroom.

### External Evaluations

Luminos also employs external, independent evaluations of our programming. A primary example is the recent RCT in Liberia, conducted by IDinsight and released in 2023. This impact evaluation compared literacy and numeracy results for out-of-school children in fifty communities in Liberia where the Luminos program was offered against fifty communities in Liberia where our program was not offered. The evaluation focused on the 2022–23 school year. The RCT found significant learning gains in literacy and numeracy among students that participated in the Luminos program. This included Oral Reading Fluency rates at 1.5 Standard Deviations above the control group.<sup>16</sup> This makes the Luminos program the most effective African education program RCT ever conducted. The RCT also unearthed important findings for future iteration, including a lower-than-expected awareness of phonics among our students. This finding was particularly counter-intuitive: Luminos’ program is phonics-based, and the overall reading fluency among the students was high. “Even in a moment of triumph,” says Caitlin Baron, “there is further learning to be gained and implemented.”



## RECOMMENDATIONS

### Recommendations for data collection and analytics:



Hire data scientists and other data team members to meet your program’s data needs.



Only use assessment tools that are designed and implemented by staff experts on evaluation.



Engage qualified external evaluators to bring an outsider’s perspective to your progress.

16 Mokobi et al., *Luminos Program Impact*, 15.



## A Staff Committed to Excellence, and a Staffing Structure to Match

Iterative design is foundational to Luminos, and is reflected in our [Beliefs and Values](#). Among other things, staff commit to using research, data, and classroom observations in the tenacious pursuit of excellence to learn what works and take the initiative to problem solve and adjust our programming accordingly. “Every single team member is responsible for learning,” says Ernesta Orlovaité. “Which means every single team member is capable of identifying problems and creating solutions for learning impact.”

This unique approach makes Luminos different from many INGOs, which typically have a more rigid way of working. We have seen a number of team members with a wealth of prior experience struggle with this part of the work when they first join Luminos. This includes being comfortable enough to say when something is not working, or being nimble enough to navigate change. Knowing that the iterative design approach will be new to many of our staff, we commit to bringing them on the iteration journey with us by providing extensive support to our staff and being intentional about demonstrating Luminos’ culture of continuous learning.

When hiring, Luminos looks for the traits most conducive to our approach. One of the traits we test for is curiosity. “We don’t want folks to come in with an approach that they have all the answers,” says Dr. Kirsty Newman, Luminos’ Vice President of Programs. “We want expertise, but also, importantly, we want people who want to try new things out with us until we land on what works.” Luminos also looks for individuals who understand how hard it is to improve children’s learning. Teaching children who are first in their family to learn to read, and who are often doing so in a language that they don’t speak at home, is difficult. We want people who have no illusions about the challenge of the work in front of us. Iterative design is the most effective way to impact children’s learning, but it is a lot of work, especially in the first phases of program implementation. It can also be disheartening work, especially when staff learn that a particular iteration is not working in practice. “What keeps you going through



Alphonso Menyon, a Luminos Program Coordinator in Liberia, played a pivotal role in the Liberia program design iteration to focus more deeply on phonics. (Photo by Mara Chan/Luminos Fund)

“We don’t want folks to come in with an approach that they have all the answers. We want expertise, but also, importantly, we want people who want to try new things out with us until we land on what works.”

Dr. Kirsty Newman, Luminos’ Vice President of Programs



### QUICK TIP

When hiring staff who will implement an iterative design approach, look for individuals who are curious about trying new things, will appreciate how hard improving children’s learning is, and are not deterred by initial failures.



the difficult moments is your critical belief that the path Luminos is on is the best path for the children we are serving,” says James Earl Kiawoin.

In addition to identifying the right staff, Luminos has also made changes over the years to our staffing structure. For example, while we still have team members in Liberia who have been with us since 2016, we have grown and added expert capacity to meet identified program needs. See examples of this in the Case Study below.

### Case Study: Staffing Structure in Liberia



#### After year one

- Bringing in a leader with a strong focus on iteration.
- Streamlining community-level staff, cutting classroom operating costs in half.



#### After year two

- Bringing in a Liberian phonics specialist who had been teaching in private schools to help rewrite the curriculum so it focused on phonics.
- Promoting our best teachers to the role of teacher coaches on Luminos staff, ensuring we were passing along real, firsthand knowledge of good classroom practice.



#### Year three and beyond

- Recruiting a new, more senior-level country lead who could engage with the government and building in-country data capabilities at a different level than we were able to previously.
- Engaging a consultant to deliver on safeguarding capabilities.
- Bringing safeguarding in-house with a dedicated internal lead, custom teaching and learning materials, and training for all team members.

This revised staffing structure met our program implementation needs and expanded our capacity to impact children’s learning. We started small in both program and size in Liberia, and we added targeted expertise as needed. Ultimately, Luminos built up talent within our Liberia network so we could “grow our own” and promote from within.



### RECOMMENDATIONS

#### Recommendations for building out a staff committed to excellence:



Recognize that learning to iterate will be a new skill for staff to develop and requires organizational support.



Encourage staff to speak openly and honestly about what is working and what is not working.



Offer staff training to grow their problem-solving and decision-making capabilities.



Create a staffing structure large enough to absorb the time intensity of iteration, especially during phase one.



## Extensive Communication and Consensus Building with Partners

From start to finish, Luminos works hand in hand with our community partners and government stakeholders to ensure the successful delivery of our programs. Our [community partners](#), locally rooted NGOs who co-implement our programs with us, provide important local context and expertise. Iterative design is generally very different from past partnership models that community partners have experienced. Through training and practice, our community partners become adept at prioritizing learning outcomes over fixed models, working nimbly, and problem solving proactively. “True community partners are those that get the ‘so what’ of iterative design and are committed to adaptation in service of children’s learning,” says James Earl Kiawoin. To ensure that our partners get the “so what” of iterative design, it is essential that we share data on learning outcomes, walk them through our analysis, and brainstorm solutions for how to adapt together.

The lasting success of program implementation depends upon securing and maintaining the government’s support and engagement. In some cases, we begin a program within the context of an existing government curriculum that we wish to adapt. In other cases, government ministries of education may need to approve the program curriculum before classes can begin. This makes it especially critical that government partners are a part of our iterative learning journey from the start. Luminos looks for champions within the government who are dedicated to achieving learning impact, are excited about the opportunity to measure outcomes, and believe in the imperative to change course when things are not working.

Our iterative approach comes into play early on in our work with government partners as we identify and implement changes to existing government curricula. Research has found that standard government curriculum learning outcomes are often overly optimistic.<sup>17</sup> They frequently skim through the foundations of learning without allowing children to go deep enough to really master literacy. As Luminos develops our curriculum, we provide government stakeholders with data on students’ actual starting point for foundational learning, and we set the expectation for how much can be achieved in how many hours of instruction. “When we first start,

“True community partners are those that get the ‘so what’ of iterative design and are committed to adaptation in service of children’s learning.”

James Earl Kiawoin, Luminos  
Country Manager in Liberia



### QUICK TIP

Do not assume your partners have experience with iterative design. With new partners, be prepared to share information on the value of the approach and how it positively impacts children’s learning.



Officials from the Ethiopian, Gambian, and Ghanaian ministries of education during a learning exchange facilitated by Luminos in Ethiopia. (Photo by Mekbib Tadesse for the Luminos Fund)

17 Pritchett and Viarengo, “Learning Outcomes.”; Pritchett and Beatty, “The Negative Consequences.”

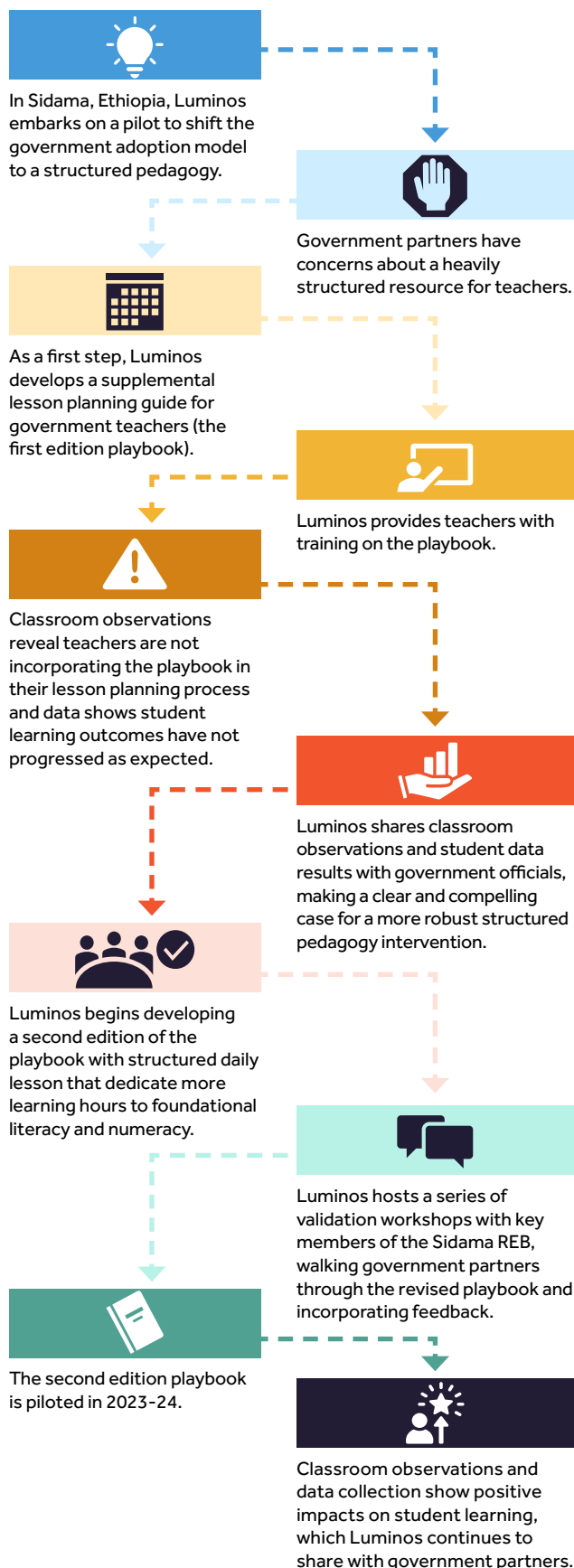
our approach to learning can seem alien to our government system,” says Dr. Alemayehu Hailu Gebre. “We need to show them how it will benefit the students, the teachers, and the whole country.” In this way, our government partners develop an understanding that there are no shortcuts to developing foundational skills, which requires extensive and appropriately paced instruction.

In the Sidama region of Ethiopia, for example, Luminos has been involved in a multi-year pilot with the Sidama Regional Education Bureau (REB) to enhance the impact and scalability of the government adoption model. After a preliminary year of research and design sprints, Luminos determined that an effective intervention would be to shift the government model towards a structured pedagogy by designing and implementing a teacher’s manual to support teachers with the scope and sequence of the condensed curriculum. Structured pedagogy refers to a systematic and organized approach to teaching that involves carefully designed curriculum and instructional methods.<sup>18</sup>

When Luminos first proposed creating a new resource for teachers, there was some caution from the regional government, which holds the mandate for developing curriculum documents. In response to government concerns, we created the first edition of the playbook as a supplemental resource with weekly “I do, we do, you do” literacy and numeracy activities mapped to the government curriculum that teachers could include in their daily lesson plans. After the introduction of the first edition of the playbook, Luminos collected information on its implementation and effectiveness. Classroom observations revealed that teachers had not embraced the playbook as a lesson planning tool, in part because, by creating a supplemental resource, we had inadvertently increased the lesson planning burden for teachers. As a result, we were not successful at achieving a greater focus on foundational literacy and numeracy. In sharing this information with our government partners, Luminos was able to make a strong and convincing case for a more robust structured pedagogy intervention.

18 Chakera, Haffner, and Harrop, “Structured Pedagogy.”

## Case Study: Structured Pedagogy in Ethiopia





#### QUICK TIP

With government officials, use your data to make your case for change. To generate government support for adaptation, lift up lagging student results and identify the necessary solutions.

“When we first start, our approach to learning can seem alien to our government system. We need to show them how it will benefit the students, the teachers, and the whole country.”

Dr. Alemayehu Hailu Gebre, Luminos Senior Director of Programs in Ethiopia



A teacher in the Sidama region of Ethiopia using the second edition of the playbook during the 2023-24 school year. (Photo by Caitlin Collis/Luminos Fund)

In the 2023-24 school year, we implemented a second edition of the playbook, which provides teachers with structured daily lesson plans that prescribe the topics and core learning objectives for each lesson of the day. The minimum learning competencies and content are sourced from the regional curriculum but are restructured to allocate more hours for literacy and numeracy. While the second edition maps to the condensed government textbooks, the playbook was designed to be functional in classrooms where teachers do not have any other teaching and learning materials. “Most teachers don’t have textbooks and have a lot of workload,” says Hassen Ahmed Assen, Luminos’ Country Manager in Ethiopia. “And our government partners liked the idea of using playbooks to minimize the workload of teachers to make their job easier.”

To secure government support for this iteration, Luminos held a series of validation workshops with key members of the Sidama Education Bureau. In these workshops, Luminos walked participants through the revised playbook and solicited feedback, which we then incorporated. “One of the most important things is having our government partners own part of the process of redesign,” says Dr. Alemayehu Hailu Gebre. “When their changes are implemented, it reinforces the idea that we are creating something of impact together.” The second edition of the playbook was launched in the 2023–24 school year, and Luminos is measuring a positive impact on children’s learning. We share this data with our government partners to illustrate the value of the curriculum changes and to continue to strengthen their support for the adaptations.



#### RECOMMENDATION

##### Recommendations for extensive communication and consensus building with partners:



Provide training for your partners on your iterative design approach.



Set expectations with government stakeholders about the true pace of foundation learning.



Share data on learning outcomes with your partners, and brainstorm solutions together.



Hold validation workshops with government officials to explain big changes and solicit feedback. .



Identify government champions who believe in the iterative approach and will support the work.





# Challenges and Tensions

Luminos' commitment to the ongoing process of iterative design makes our work more effective. It also introduces a way of working that is unusual among INGOs, which creates a steep learning curve for some of our staff and stakeholders. By its nature, iterative design generates a more intensive implementation process, which Luminos addresses by ensuring that capacity and resources are in place to do the work sustainably and for the long term. Iterative design is a practice we incorporate internally as well as in our programming; as we navigate challenges and tensions in our iterative design approach, we adjust our internal policies and practices accordingly.

## Flexing a New Muscle Takes Practice and Support

Luminos expects staff to move quickly and decisively in making the classroom changes necessary to positively impact children's learning. In this way, we entrust classroom decision-making to those closest to the classroom. For some, rapid decision-making is a muscle they have never had the opportunity to flex in their prior work experiences. Just like the learning model we teach children in our classrooms, Luminos emphasizes the importance of "practice, making mistakes, and practicing again until you gain expertise," says Ernesta Orlovaité. To support our staff, Luminos has worked hard to develop a culture in which it is safe to try new things, fail, and try again. To that end, we encourage staff to speak openly and honestly about what is working and not working. "At my very first meeting at Luminos, staff members were presenting data from the first phase of our program in Ghana showing that a larger number of the kids in our program were not learning as expected," says Dr. Kirsty Newman. "I have never seen that level of openness before, including the constructive ideas for change offered by staff members in the midst of such disappointing information. It is really rare to see."

Encouraging and supporting the ownership of the iterative process requires that staff figure out the solutions they think are best. Inevitably, this also includes allowing Luminos staff to make mistakes. In support of growth in this area, Luminos provides guidance and training on problem solving and decision-making, informed by our deep expertise. We also hire high-quality staff, within whom we have excellent trust in their ability to figure out the best answers for impacting children's learning.

Luminos emphasizes the importance of "practice, making mistakes, and practicing again until you gain expertise."

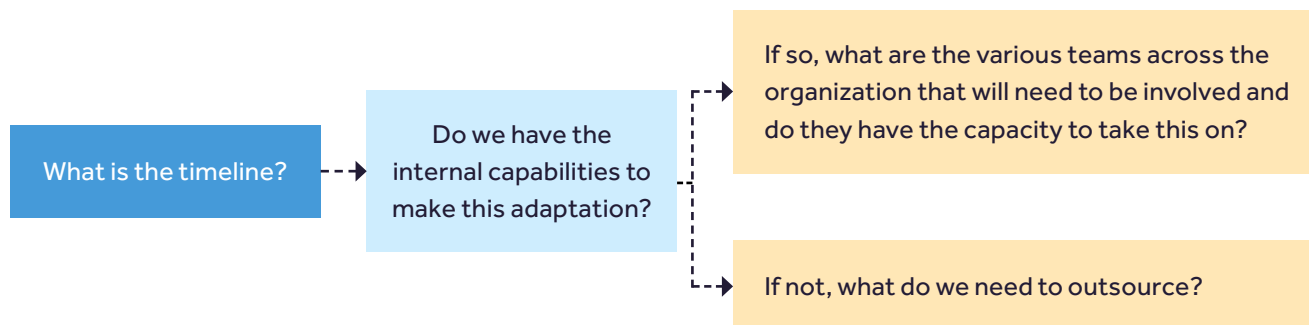
Ernesta Orlovaité,  
Luminos Director of  
Impact



Teachers during a training session in The Gambia. (Photo by Lena Nian for the Luminos Fund)

## The Intensity of Implementation Can Lead to Staff Burnout

With an iterative process, the pace and magnitude of change may slow down in later phases, but change never really stops. There will always be an opportunity to improve Luminos programming so that it achieves the highest impact possible. This requires a high level of responsiveness from our staff. To address this, it is important to ensure we have the staffing resources and capacity to support the work of continuous iteration, on both the program and administrative side. This means taking a good long look at what the implications will be for the whole organization when deciding upon a new adaption and thinking through the following questions:



Luminos also emphasizes the reality that there are only so many changes any given project or system can sustain at a given time. “There are always ten to twenty things you could do, but you need to focus on the one or two most important iterations necessary to make first,” says Luminos CEO, Caitlin Baron. In this way, we iterate step by step, focusing on the changes that will have the most impact on children’s learning. For example, when Luminos launched our program in Ghana, our classroom observations revealed a number of problems. We knew it was not feasible to address them all at once, so Luminos focused on the one thing that we thought would be most meaningful, which was to focus more on blended-letter activities (teaching how two or more letters come together to make a particular sound or word). We focused on creating a letter-blending activity first, before addressing additional classroom challenges.



“There are always ten to twenty things you could do, but you need to focus on the one or two most important iterations necessary to make first.”

Caitlin Baron, CEO, the Luminos Fund

Luminos’ real-time data collection means that staff are aware when things are working — as well as when they are not working. “In most organizations, where you don’t measure your progress, you can pretend that everything is working. This might help you go home and rest easy,” says Dr. Kirsty Newman. At Luminos, we are made aware, in relatively real time, when something is not working in the classroom.



This can weigh heavily on staff, especially in consideration of the reality that any changes we need to make won't necessarily change learning outcomes overnight. Luminos works with staff to develop a mindset that is comfortable with the difficulty of teaching children to learn anywhere, and especially in developing countries. "We remind the staff that Luminos is in this work for the long term and that the work need not crush you," says Caitlin Baron. With our long-term commitment to our program countries, we are running a marathon, not a sprint. We need staff to pace themselves for the distance.

## Finding Funders Who Support the Flexibility and Scale of Our Approach

---

Underlying all of this work is donor commitment to and support for our approach. This support includes a flexible funding structure that prioritizes children's learning outcomes rather than a fixed program model. We believe this flexible funding is key, and we know many of our peers in the sector do not have the benefit of such funding.

For Luminos, flexible funding has been key to our ability to innovate and iterate. "We started with a five-year unrestricted grant from Legatum, which is almost unheard of," says Caitlin Baron. "It gave us the gift of focusing on figuring out what works best." For Legatum, flexible funding is essential to their impact investment strategy. "At Legatum, we care most about the actual impact of the work in people's lives, and for that to be maximized an organization has to have a learning culture — you don't get that if you have donors controlling everything you do," says Legatum Partner and Luminos Board Chair Philip Vassiliou. "Therefore, for decades now, when we believe in the leadership of an organization, and we're aligned on vision and values, then we trust them to use our capital to its highest and best use, and give them freedom to do that. We have seen this approach pay off time and again — not least in the amazing impact and growth of Luminos."

With all our donors, Luminos provides updates on significant program adaptations along the way, including the data behind making such changes. In this way, we can keep donors in the loop and continue to generate support for the work. It also fortifies their commitment to the program, which, by design, is smaller in scale in years one and two before growing significantly in year three and beyond. "Scaling an ineffective program is not true scaling," says Caitlin Baron. At the time Luminos launched in 2016, the generous, upfront, unrestricted support, such as what we received from Legatum, was almost unheard of. Today, many more donors have jumped on board. For example, more than eight hundred U.S.-based foundations have signed onto a pledge to implement more unrestricted and/or trust-based grant-making practices as a response to the COVID-19 pandemic.<sup>19</sup>



---

“At Legatum, we care most about the actual impact of the work in people's lives, and for that to be maximized an organization has to have a learning culture — you don't get that if you have donors controlling everything you do.”

Philip Vassiliou, Legatum Partner and Luminos Board Chair

---

---

<sup>19</sup> Council on Foundations, "A Call to Action."



A 2021 study from the Center for Effective Philanthropy found that 61 percent of surveyed U.S. foundations provide at least some unrestricted funding (compared to around 20 percent in 2005).<sup>20</sup> Emerging research on the impact of flexible funding structures finds that such grants positively impact, among other things, an organization’s “operational capacity... adaptive capacity...and innovation.”<sup>21</sup>

Despite this, restricted funding remains the norm, hampering organizations’ abilities to iterate and adapt as needed. And, while large donors increasingly indicate that they support an iterative design model, they don’t always structure their grants or grant-reporting models in a way that encourages flexibility. “Some funders have unrealistic assumptions about how easy it is to get kids learning, and that there is one model that works,” says Dr. Kirsty Newman. “It’s not like that. It is not easy. It is really, really hard.”

---

“Some funders have unrealistic assumptions about how easy it is to get kids learning, and that there is one model that works. It’s not like that. It is not easy. It is really, really hard.”

Dr. Kirsty Newman, Luminos Vice President of Programs

---

## Conclusion

Iterative design is the engine that drives Luminos’ approach to education reform: we continuously evaluate our program implementation to identify any barriers to learning and make the necessary adjustments to overcome them. In a world in which 90 percent of children in low-income countries have not learned to read by age 10, effective interventions are essential to addressing the problem. Yet many — if not most — education interventions fail. Getting education right is hard, and Luminos knows that solving this complex development challenge requires rapid cycle iteration to have an impact on children’s learning.

Iterative design is a well-known model in other industries, but it is rarely practiced among global education reformers. This makes the Luminos approach especially unique for our new staff, community partners, and government stakeholders. In service of our deep commitment to the ongoing journey of program design, learning, and adaptation, we build up the culture and capacity for iterative design within our staff and across our partnerships. When we learn what is working through our extensive data collection and analysis, we stay the course. When our observations and analyses show us that learning is not taking place as expected, we make adjustments until we have closed the gap. In this way, we know our program is achieving maximum impact. Intensive implementation and adaptation cycles are what have allowed us to identify a core intervention model that works. Education reform through iterative design is a hard journey, but our results in the classroom tell us that it is the only one worth pursuing.

<sup>20</sup> Buteau, Orensten, and Marotta, *Foundations Respond*, 12.

<sup>21</sup> Wiepking and de Wit, “Unrestricted Funding,” 13.



Outside her classroom in Ethiopia, student Tsigereda takes a turn reading to her small group, supervised by teacher Konjit. (Photo by Mekbib Tadesse for the Luminos Fund)



# References

- Akyeampong, K., T. Andrabi, A. Banerjee, R. Banerji, S. Dynarski, R. Glennerster, S. Grantham-McGregor, K. Muralidharan, B. Piper, S. Ruto, J. Saavedra, S. Schmclkes, and H. Yoshikawa. *2023 Cost-Effective Approaches to Improve Global Learning: What Does Recent Evidence Tell Us Are “Smart Buys” for Improving Learning in Low- and Middle-Income Countries?* Report produced by the Global Education Evidence Advisory Panel. London, Washington D.C., and New York: FCDO, the World Bank, UNICEF, and USays; May 2023. <https://thedocs.worldbank.org/en/doc/231d98251cf326922518be0cbe306fdc-0200022023/related/GEEAP-Report-Smart-Buys-2023-final.pdf>.
- Azevedo, J., D. Goldemberg, S. Montoya, R. Nayar, H. Rogers, J. Saavedra, and B. Stacy. “Will Every Child Be Able to Read by 2030? Defining Learning Poverty and Mapping the Dimensions of the Challenge.” Policy Research Working Paper 9588, World Bank Group Education Global Practice, March 2021. [https://gaml.uis.unesco.org/wp-content/uploads/sites/2/2021/03/Azevedo-et-al-2021\\_Will-Every-Child-Be-Able-to-Read-by-2030.pdf](https://gaml.uis.unesco.org/wp-content/uploads/sites/2/2021/03/Azevedo-et-al-2021_Will-Every-Child-Be-Able-to-Read-by-2030.pdf).
- Bryant, J., F. Child, E. Demirdag, E. Dorn, S. Hall, K. Jayaram, C. Krishnan, C. Lim, E. Liss, K. Onabanjo, F. Panier, J. Rebolledo, J. Sarakatsannis, D. Scott, R. Tschupp, S. Ungur, and P. Vigin. *Spark & Sustain: How All of the World’s School Systems Can Improve Learning at Scale*. McKinsey & Company Global Education Practice, 12 February 2024. [https://www.mckinsey.com/industries/education/our-insights/spark-and-sustain-how-school-systems-can-improve-learning-at-scale#](https://www.mckinsey.com/industries/education/our-insights/spark-and-sustain-how-school-systems-can-improve-learning-at-scale#/).
- Buteau, E., N. Orensten, and S. Marotta. *Foundations Respond to Crisis: Lasting Change?* The Center for Effective Philanthropy, 2021. [https://cep.org/wp-content/uploads/2021/11/CEP\\_Foundations-Respond-to-Crisis-Lasting\\_Change.pdf](https://cep.org/wp-content/uploads/2021/11/CEP_Foundations-Respond-to-Crisis-Lasting_Change.pdf).
- Chakera, S., D. Haffner, and E. Harrop. “Structured Pedagogy: For Real-Time Equitable Improvements in Learning Outcomes.” UNICEF Eastern and Southern Africa Region Working Paper, Nairobi, June 2020. <https://www.unicef.org/esa/media/7511/file/ESA-Structured-Pedagogy-2020.pdf>.
- Chang, A. *Lean Impact: How to Innovate for Radically Greater Social Good*. Hoboken: Wiley, 2018.
- Council on Foundations. “A Call to Action: Philanthropy’s Commitment during COVID-19.” <https://cof.org/news/call-action-philanthropys-commitment-during-covid-19>
- Easterly, W. *The Tyranny of Experts: Economists, Dictators, and the Forgotten Rights of the Poor*. New York: Basic Books, 2014.
- ELM Learning. “Building a Learning Organization.” ELM Learning (14 September 2022). <https://elmlearning.com/blog/what-is-a-learning-organization/>.
- Harvard Kennedy School. “What is PDIA?” (web page). <https://bsc.hks.harvard.edu/about/what-is-pdia/>.
- IDinsight, 15 November 2023. [https://luminosfund.org/wp-content/uploads/2023/11/Luminos-Program-Impact-Evaluation\\_15Nov2023\\_final.pdf](https://luminosfund.org/wp-content/uploads/2023/11/Luminos-Program-Impact-Evaluation_15Nov2023_final.pdf).
- Larman, C., and V. Basili. “Iterative and Incremental Developments: A Brief History.” *Computer* 36, no. 6 (11 June 2003): 47–56. <https://ieeexplore.ieee.org/document/1204375>.
- Luminos Fund. “Measuring Transformative Learning Gains: Key Findings from the IDinsight RCT of Luminos’ Liberia Program.” Luminos Fund (21 September 2023). <https://luminosfund.org/blog/measuring-transformative-learning-gains-key-findings-from-the-idinsight-rct-of-luminos-liberia-program/>.

Mokobi, K., S. Deme, E. Nijhof, M. Rudasingwa, J. McManus, C. Pignon, and L. Mwai. *Luminos Program Impact Evaluation: Randomized Controlled Trial of an Accelerated Learning Program for Out-of-School Children in Liberia*.

Mulcahy-Dunn, A., and T. de Azevedo. *Ten Years of Early Grade Reading Programming: A Retrospective (2011–2021)*. USays, February 2023. [https://www.edu-links.org/sites/default/files/media/file/Ten\\_Years\\_of\\_Early\\_Grade\\_Reading\\_Programming\\_A\\_Retrospective.pdf](https://www.edu-links.org/sites/default/files/media/file/Ten_Years_of_Early_Grade_Reading_Programming_A_Retrospective.pdf).

Pritchett, L., and A. Beatty. "The Negative Consequences of Overambitious Curricula in Developing Countries — Working Paper 293." Center for Global Development, 18 April 2012. <https://www.cgdev.org/publication/negative-consequences-overambitious-curricula-developing-countries-working-paper-293>.

Pritchett, L., K. Newman, and J. Silberstein. *Focus to Flourish: Five Actions to Accelerate Progress in Learning*. RISE, 6 December 2022. <https://riseprogramme.org/publications/focus-flourish-five-actions-accelerate-progress-learning.html>.

Pritchett, L., and M. Viarengo. "Learning Outcomes in Developing Countries: Four Hard Lessons from PISA-D." RISE Working Paper 21/069, April 2021. [https://riseprogramme.org/sites/default/files/2021-04/Learning\\_Outcomes\\_Developing\\_Countries\\_Four\\_Hard\\_Lessons\\_PISA-D.pdf](https://riseprogramme.org/sites/default/files/2021-04/Learning_Outcomes_Developing_Countries_Four_Hard_Lessons_PISA-D.pdf).

Roser, M. "Access to Basic Education: Almost 60 Million Children of Primary School Age Are Not in School." *Our World in Data* (2 November 2021). <https://ourworldindata.org/children-not-in-school>.

Stern, J., M. Jukes, J. DeStefano, J. Mejia, P. Dubeck, B. Carrol, R. Jordan, C. Gatuyu, T. Nduku, C. Van Keuren, M. Punjabi, F. Tufail. *Learning at Scale: Final Report*. RTI International, 2023. <https://learningatscale.net/wp-content/uploads/2023/10/Learning-at-Scale-Final-Report-.pdf>.

Wiepking, P., and A. de Wit. "Unrestricted Funding and Nonprofit Capacities: Developing a Conceptual Model." *Nonprofit Management and Leadership* (19 October 2023): 1–24. <https://doi.org/10.1002/nml.21592>.

---

## Acknowledgements

This publication is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of the Luminos Fund and do not necessarily reflect the views of USAID or the United States Government.



---

## Contact Information

For questions or more information about the Luminos Method, please contact: [info@luminosfund.org](mailto:info@luminosfund.org) and use the words "Luminos Method" in the subject line.

---

Copyright © 2024 The Luminos Fund. Luminos Method® and Luminos Fund® are registered trademarks of The Luminos Fund in the United States. All rights reserved.