An abstract graphic consisting of several concentric, overlapping circles in shades of teal and dark blue. Six white dots are scattered across the circles, some on the outer rings and some in the center.

# Adapting, innovating, and scaling foundational learning:

Four lessons from scaling Teaching  
at the Right Level in Botswana

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# Key Terms



## What do we mean by scaling innovation for impact in education?

This case study is focused on scaling innovation for impact. While these terms are context and time specific and can be defined in numerous ways, this case study employs the following definitions:

**Scaling:** We define scaling as a range of approaches—from deliberate replication of innovations to organic diffusion to integration into national systems—that expand and deepen the impact of innovations, leading to lasting improvements in people’s lives. Scaling in education is not simply about increasing the reach of an innovation; it requires expanding, deepening, and enhancing the

quality, scope, equity, and sustainability of education innovations across a system so that all children—including the most marginalized—receive quality learning opportunities.

**Innovation:** In education, innovation is usually defined as a change in the current education system that promotes inclusive access to quality learning opportunities. As such, innovation in one place might be standard practice in another, and a practice that seems novel might have been common practice in the past. This report uses the terms innovation and initiative synonymously and interchangeably.



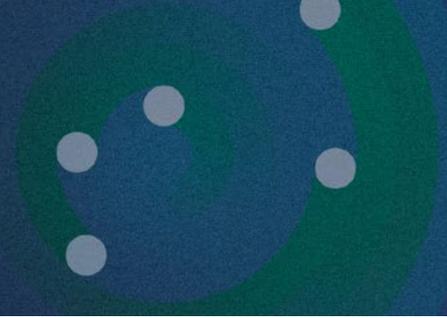
Photo Credit: Hannah Blair

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# Acronyms

<b>Batswana</b>	Plural form of Motswana. Citizens of Botswana.
<b>CUE</b>	Center for Universal Education at the Brookings Institution
<b>DPS</b>	Deputy Permanent Secretary
<b>ETSSP</b>	Education and Training Sector Strategic Plan
<b>J-PAL</b>	Jameel Poverty Action Lab
<b>Motswana</b>	Singular form of Batswana. A citizen of Botswana.
<b>MESD</b>	Ministry of Education and Skills Development
<b>MoU</b>	Memorandum of Understanding
<b>MVP</b>	Minimum Viable Product
<b>MYSC</b>	Ministry of Youth, Gender, Sport and Culture
<b>PEO</b>	Principal Education Officer
<b>PS</b>	Permanent Secretary
<b>RTSL</b>	Real-time Scaling Lab
<b>RCT</b>	Randomized Controlled Trial
<b>TaRL</b>	Teaching at the Right Level
<b>TSP</b>	Tirelo Sechaba Participant
<b>Young 1ove</b>	Former name of Youth Impact

# Introduction



Across the world, governments, civil society organizations, educators, and other innovators are testing new and different approaches to improve student learning. While many innovations show promise at a small scale, the unfortunate reality is that the majority do not have a lasting impact at large scale. Scaling the impact of an innovation requires more than a strong technical model tailored to a specific context. Scaling impact is also dependent upon factors that may be beyond the full control of the implementers, including alignment with broader education landscapes, the knowledge and capacity to respond to windows of opportunity, sufficient resources to support high-quality delivery, and the cultivation of a network of champions.

Millions Learning, a project of the Center for Universal Education (CUE) at the Brookings Institution, explores scaling and sustaining effective innovations leading to improved system-wide approaches. CUE is implementing a series of Real-time Scaling Labs (RTSLs), in partnership with local institutions in several countries, to generate evidence and provide practical recommendations around the process of scaling in global education. In 2019, CUE, in partnership with Youth Impact, launched an RTSL in Botswana focused on the process

of implementing, adapting, scaling, and sustaining the Teaching at the Right Level (TaRL) approach in primary schools across the country.

**The case of TaRL in Botswana offers a rich example of how an innovation developed and refined in one context can be adapted to and strategically expanded in a new location by a local organization in partnership with the government.** While TaRL's scaling journey in Botswana is still unfolding, the case provides an opportunity to investigate key facilitating factors, decisions, and barriers that have contributed to and constrained the scaling process to date. Section one provides an overview of the RTSL, the education ecosystem in Botswana, and the history of TaRL internationally. Section two analyzes some critical factors, opportunities, and challenges related to the design, delivery, and financing of TaRL in Botswana. This section also identifies four key lessons that can inform the work of policymakers, program designers, and implementing organizations striving to scale and sustain TaRL in other contexts and the work of other innovations around the world aiming to improve learning outcomes for all children. Finally, section three considers next steps for the scaling journey of TaRL in Botswana.

## Real-time Scaling Lab in Botswana

An RTSL is a participatory research approach to explore scaling innovation for impact in education. The RTSL model combines ongoing documentation and analysis of the scaling journey with in-person and virtual workshops.

These workshops bring together diverse stakeholders to plan for sustainable scale, reflect on challenges and opportunities, and develop and test adaptations to scaling strategies. **This report focuses on the RTSL in Botswana.**<sup>a</sup>

a. Other RTSLs have been implemented in Côte d'Ivoire, Jordan, the Philippines, and Tanzania. Although each lab focuses on learning from, documenting, and supporting the scaling of an individual initiative, the broader cohort of RTSLs also forms its own learning community. Case study reports focused on the other RTSLs, as well as two forthcoming briefs analyzing themes across the labs, can be found at: <https://www.brookings.edu/project/millions-learning/>.

# Real-time Scaling Lab in Botswana



The Ministry of Education and Skills Development (MESD) has partnered with Youth Impact to scale TaRL in all primary schools nationally. TaRL, or Teaching at the Right Level, is an education intervention that supports educators to identify students basic literacy and numeracy skills and then adapt and target instruction to meet students learning needs.



- By 2027, MESD aims to see the TaRL methodology infused into everyday teaching practice among teachers in grades 3 to 5 in all 755 primary schools in Botswana.
- On the path to realizing this vision, MESD and Youth Impact aim to achieve an intermediate goal of delivering TaRL to all students in grades 3 to 5—approximately 76,000 students—by 2027.
- Youth Impact also aims to share and exchange key learnings with the broader TaRL community, as other countries across Africa implement the approach, and inform potential regional scale-up of the program, in close collaboration with TaRL Africa and through Youth Impact's role as *Innovation Hub*.



- Scaling Lab Managers: MESD and Youth Impact co-lead the RTSL, facilitating convenings and guiding scaling discussions.
- Scaling Lab Researchers: Youth Impact colleagues document and analyze the scaling process and RTSL adaptive learning approach and lead the implementation of action research.
- CUE: Collect, analyze, and document the scaling process and provide capacity strengthening and peer learning opportunities among key Botswana stakeholders.



## **Government**

- MESD
- MYSC

## **Research Organizations**

- University of Botswana
- Botswana Education Research Association

## **Non-governmental actors/Development actors**

- Youth Impact
- TaRL Africa
- UNICEF Botswana

## **Schools**

- School Heads
- Parent Teacher Associations

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## Box 1. Youth Impact

Youth Impact (formerly “Young 1ove”) is a Botswana-based grassroots organization dedicated to scaling evidence-based health and education programs in Botswana and beyond. Founded in 2014, Youth Impact’s mission is to take rigorous evidence off the academic ‘shelf’ and use it to design, adapt, and scale impactful programs by youth, for youth, and in partnership with government. Youth Impact specializes in large-scale randomized controlled trials (RCTs) and has pioneered the use of rapid impact assessments—small-scale impact evaluations conducted on a monthly basis—to identify and improve key program elements. Youth Impact has memoranda of understanding with the Botswana government to deliver both health and education programs in partnership across the country. While this case study focuses on the organization’s work scaling the Teaching at the Right Level program in Botswana, Youth Impact’s full portfolio of programs have reached over 100,000 students in ten countries to date. For more information on Youth Impact programs and results, see: <https://www.youth-impact.org/>

## Botswana’s education landscape

In Botswana, roughly 330,000 children attend 755 public primary schools distributed across ten education regions.<sup>1</sup> Access to primary and secondary education is high with a net enrollment rate at 90 percent.<sup>2</sup> Yet despite being one of the wealthiest countries in the region with above average expenditure on education (22 percent of the government budget as of 2018<sup>3</sup>), learning levels are low. Research by Youth Impact into foundational skills in 2017 found that 32 percent of grade 5 students could not complete simple subtraction, 88 percent could not perform division, and nearly half could not read a story in English.<sup>4</sup> As is common in many countries,<sup>5</sup> low learning levels in Botswana are driven by several factors, including 1) overambitious national curricula; 2) rote teaching styles; 3) expectations of teaching to a standard

one-size-fits-all curriculum; and 4) automatic promotion of students from one grade to the next regardless of learning.

The Government of Botswana has recognized that few students are learning the basics and has committed to improving foundational learning in policy and practice. The National Education and Training Sector Strategic Plan (ETSSP) 2015-2020<sup>6</sup> outlines a vision for quality learning and calls for compulsory remedial education and student-focused, differentiated curriculum for primary school students. In August 2016, the Permanent Secretary (PS) of the MESD engaged Youth Impact—who had previously collaborated with the government to scale evidence-based interventions in schools—to collaboratively address low learning levels.

## TaRL development, implementation, and scaling in low- and middle-income countries

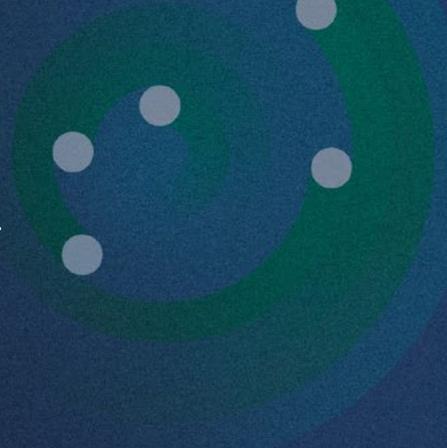
Teaching at the Right Level (TaRL) is an education intervention with a strong history of evidence-based impact. TaRL was originally pioneered by Pratham in India and tested for over 15 years by the Jameel Poverty Action Lab (J-PAL). The approach supports educators to identify students' basic literacy and numeracy skills rapidly and regularly through quick assessments, and then to adapt and target instruction to address student learning needs. TaRL educators are trained to facilitate engaging activities that only require local materials such as sticks and stones, and children regularly engage in whole class, small group, pair, and individual learning activities. While TaRL activities have been implemented by a variety of actors (volunteers, government teachers, and NGO staff), TaRL instructors across contexts are supported through a core mentorship model. Mentors are TaRL experts, who have been trained in and implemented

TaRL previously and then provide support, feedback, and guidance to TaRL instructors to ensure high quality facilitation. Multiple research findings have shown that TaRL has improved learning across a wide range of contexts in India, Ghana, and Kenya in a cost-effective manner.<sup>7</sup> Various governments and NGOs across Africa have adapted the model to implement in their own contexts, including in Botswana, Côte d'Ivoire (where another RTSL studied the experience of scaling TaRL<sup>8</sup>), Ghana, Kenya, Madagascar, Mozambique, Niger, Nigeria, Uganda, and Zambia. TaRL Africa, a joint venture between Pratham and J-PAL, was formed in 2019 to support governments and other partners with this expansion.<sup>9</sup> Youth Impact serves as a TaRL Africa Innovation Hub; the TaRL Botswana efforts are a site for innovation, lesson-sharing, and co-training to support and inform scale-up efforts of TaRL throughout sub-Saharan Africa.



Photo Credit: Hannah Blair

# Scaling TaRL in Botswana



Since 2016, Teaching at the Right Level (TaRL) has expanded in Botswana from a numeracy pilot in a single school, to a numeracy and literacy program implemented in over 20 percent of primary schools across five regions of the country. Scaling TaRL has resulted in impressive learning gains in Botswana. Results from 2022 show the percentage of grade 3 to 5 students who could not do any basic numeracy operations fell from 34 percent to 8 percent and 72 percent of students learned a new numerical operation (addition, subtraction, multiplication, or division)<sup>10</sup> during a TaRL implementation duration of 3 to 6 weeks.<sup>b</sup>

While many factors and forces have strengthened and constrained its scaling process to date, analysis of the scaling

journey so far highlights several primary drivers. These include: 1) a ready policy environment and an organization with the knowledge, networks, and expertise to act on this opportunity; 2) ongoing data-driven adaptation of the model and scaling strategy, including through the use of A/B testing; 3) the cultivation of buy-in throughout the system and a scaling approach focused on demand-driven, regional expansion; and 4) the use of diverse forms of timely data to demonstrate need, make successes visible, build buy-in among stakeholders, track progress, and inform adaptations. The following section will explore each of these themes in greater depth, examine challenges that arose, and offer lessons that may shed light on scaling efforts beyond the specific case.

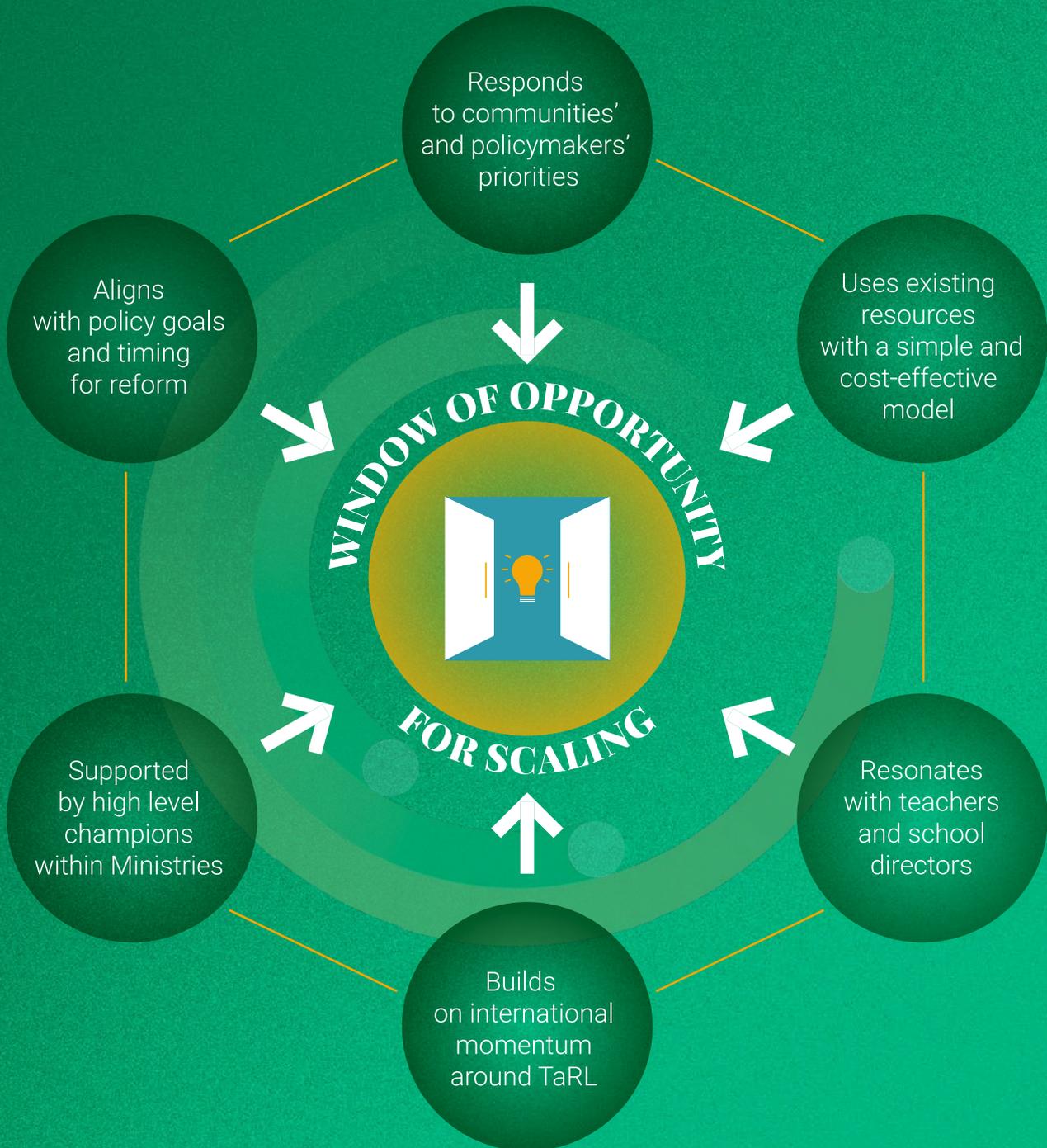
## 1. Seize opportunity where problem, policies, and priorities converge

In Botswana, TaRL benefitted from a convergence of factors in the broader education ecosystem that led to ripe and ready conditions for its adoption and scaling. First, TaRL directly responded to a priority issue that both policymakers and local communities felt strongly about addressing. Second, the innovation aligned with existing policy goals and momentum both nationally and internationally. Third, the TaRL approach was a relatively

simple and low-cost model that resonated with the experiences of teachers and school directors. These elements of problem, policies, and priorities<sup>11</sup> came together to form a window of opportunity for TaRL in Botswana, which Youth Impact was able to leverage given their readiness to act and close attention to the environment, existing reputation in the local context, and relationship with key government leaders.

b. Unless otherwise cited, data is from Youth Impact's own data analysis of TaRL learning outcomes and program implementation statistics, which can be found here: <https://public.tableau.com/app/profile/young1ove/viz/TaRLAllTermsMSGSLlevellingResults/FullDashboardStory>

# Window of Opportunity for Scaling TaRL



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## Direct response to local education needs and priority problems

Research over the last decade on scaling highlights that a foundational ingredient for improving learning at scale is local policymakers and the local public perceiving it as a problem that urgently needs fixing.<sup>12</sup> In Botswana, improving basic numeracy and literacy was a key priority for the MESD headquarters, regional leadership, schools, and communities. As such, the TaRL approach came to the attention of the Deputy Permanent Secretary of Education (DPS) at a moment when improving learning outcomes in primary schools was a top priority. The DPS learned about the model at a 2016 education forum in London and when he returned to Botswana, he shared his enthusiasm about TaRL's potential with the Permanent Secretary (PS) of Education. The PS—who was a champion of Youth Impact and had been an advisor to the organization in its founding years—then connected her deputy to Youth Impact's leadership, who she knew were also considering how to introduce the intervention in Botswana. Youth Impact's existing relationships and experience working with these high-level ministry leaders created an opportunity for the organization to again partner with the government to scale an innovation that both sets of stakeholders saw having the potential to address a priority problem.<sup>13</sup>

## Alignment with existing policies, school structures, and movements nationally and internationally

TaRL's potential for adoption and scaling in Botswana further benefited from its alignment with existing national policies. In particular, the ETSSP 2015-2020 called for compulsory remedial education and student-focused, differentiated curriculum at all levels of primary school. As a result, all schools were allocated a "study hour" during the day for the purpose of providing students

more targeted learning support. Thus, policies supporting TaRL existed not only on paper, but also in school routines and scheduling.<sup>14</sup>

TaRL's expansion in Botswana has also been supported by a strong international movement. In 2019, the philanthropic collaborative Co-Impact awarded a large grant to expand TaRL from India to Africa, resulting in Pratham and J-PAL jointly launching TaRL Africa.<sup>15</sup> TaRL received additional international attention when the co-founders of J-PAL won the Nobel Prize in 2019 for their use of RCTs to study anti-poverty interventions, including RCTs studying TaRL.<sup>16</sup> A 2020 World Bank study on cost-effective approaches to improving learning brought further attention when it cited the TaRL model as a "good buy."<sup>17</sup> Finally, school closures and learning losses in the wake of COVID-19 led to calls among the international education community to emphasize foundational learning and remedial education initiatives, such as TaRL, to help children catch up.<sup>18</sup> This international momentum for TaRL is felt locally, as teachers in Botswana have reported that they feel inspired to be part of the broader movement and cognizant of international attention on their efforts.<sup>19</sup>

## Simplicity, familiarity, and cost-effectiveness

There are multiple factors that determine scalability—or the ease with which an initiative can be scaled in a particular context—but simplicity of the approach, the degree to which the model is similar to (or resonates with) existing practices in the education system, and cost-effectiveness are three important elements.<sup>20</sup> TaRL's scalability across these factors helped support its adoption and expansion in the Botswana context. The fact that TaRL is relatively simple to implement—requiring

modest time commitments, using locally available materials, with results that are visible in a short period of time—increased its scalability. In addition, the TaRL approach resonated with many teachers and school leaders, who found it harkened back to methods included in pre-service teacher training. Similarly, TaRL's relative low cost and its implementation using existing human resources also increased its scalability. The first cost data analysis conducted in Botswana from the proof-of-concept study showed that it cost around \$5-\$7 per child to bring a child to grade level.<sup>21</sup> This information—which enabled Youth Impact to make rough comparisons with the cost of TaRL in other contexts and other education interventions in Botswana—showed that TaRL could be a cost-effective intervention suitable for national scale. In addition, Youth Impact identified that there existed a cadre of underutilized young people within the National Service Program, who could be engaged to deliver TaRL, reducing the need for additional resources to implement the

program (for more discussion of this delivery approach, see subsection 2).

### What challenges were faced or adaptations made?

*Fluctuating levels of support from MESD leadership.* While there was strong initial support for TaRL among several high-level MESD leaders at the national level, this has not led to consistent, long-term support and engagement. For example, transitions in the PS role delayed the signing of the updated 2021 MoU for several months. This also impacted the frequency with which RTSL meetings between stakeholders took place. These delays and time spent rebuilding relationships ultimately slow down the scaling process. To maintain momentum, Youth Impact has prioritized relationship-building beyond the small set of high-level champions through frequent meetings and school visits to with a diverse range of MESD partners.



Photo Credit: Hannah Blair

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## What are the key takeaways?

1. Many education problems need attention, and many innovations might be impactful, but only those initiatives that respond to issues and conditions that local decision-makers and communities prioritize generally have the potential to scale.<sup>22</sup> Given that policymakers are often bombarded with potential innovations, it is essential to seize the opportunity to introduce an innovation when there is alignment between focus on a problem, political conditions, national mood, and international momentum. However, these windows of opportunity are time sensitive and can require ongoing attention and maintenance as educational leaders and contexts fluctuate over time. Being prepared to seize such opportunities when they arise is critical. There is certainly some luck involved in whether a window of opportunity for a particular innovation opens at the right moment, and scalars working in other contexts cannot necessarily replicate the same chance. However, while "luck cannot be replicated... preparedness to use the luck can be."<sup>23</sup>
2. Innovations with few components and low complexity that make fewer demands on teachers and are easily added to the educational system will always be easier to scale compared to innovations that are complex and call for serious departures in practice for teachers and education systems. It is essential to assess an initiative's scalability in the context and identify adaptations that can be made to improve its ease of scaling. Including adaptations that increase its alignment to existing educational practices and cost effectiveness can be particularly effective.<sup>24</sup>

## 2. Foster a culture of flexible adaptation and innovation

A second key element of the approach to implementing and scaling TaRL in Botswana has been the focus on continually adapting the model and the scaling strategy, driven by Youth Impact's own culture of rapid data-driven decision-making and commitment to iterative adaptation and learning. Led by Youth Impact and supported by other partners, adaptation of the approach did not stop after the pilot phase but has continued in an ongoing way to improve the model and its scalability, tailor it to the needs and preferences of each region, address changes in the broader environment, and learn from both what has worked and what has not.

### Adapting the TaRL model to the Botswana context

TaRL in Botswana shares core program features that have shown to be effective across contexts: students are assessed and grouped according to their learning levels in numeracy and literacy and then participate in targeted, child-centered, and activity-based instruction. TaRL facilitators are supported by school-based mentors, and mentors and facilitators are further supported by a network of trainers, regional officers, and MESD partners who monitor implementation, interpret learning results, and oversee trainings.

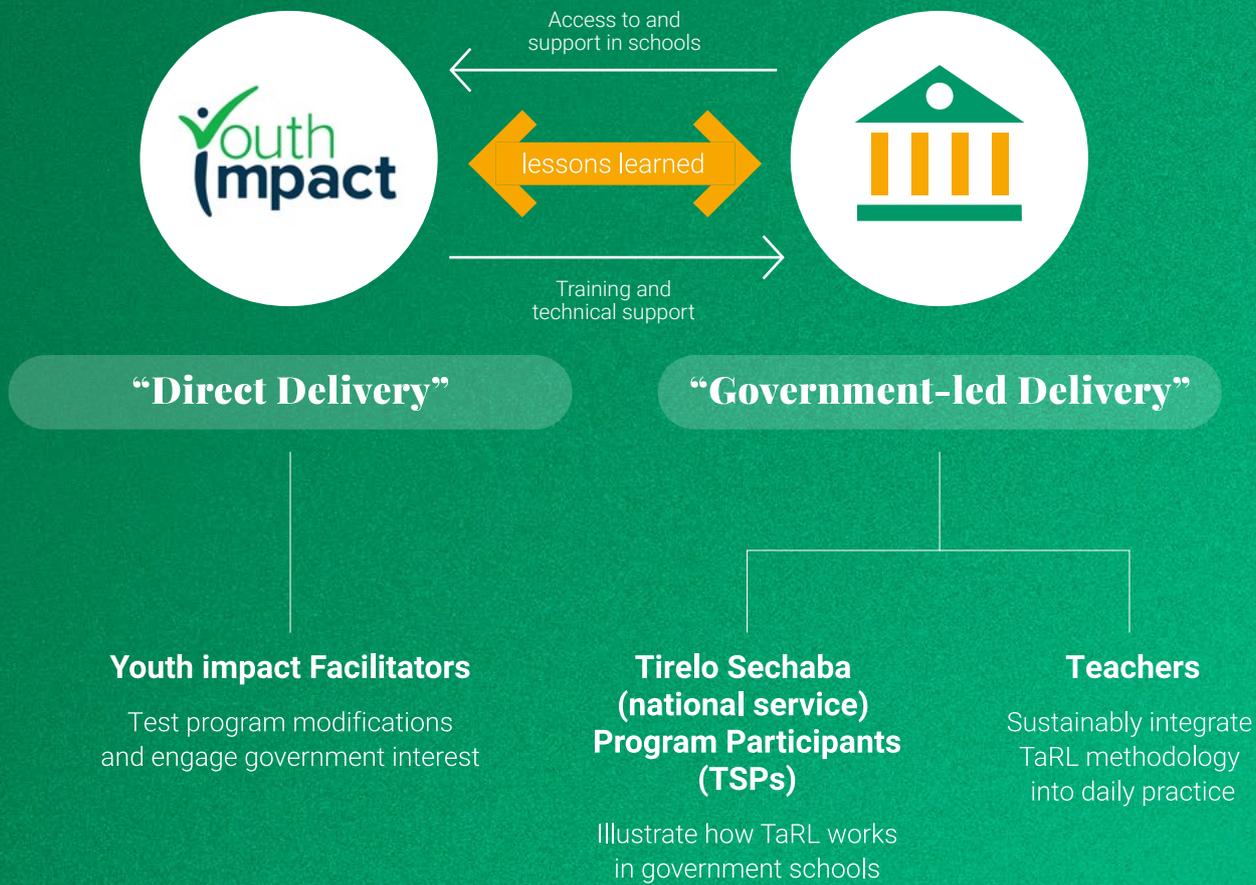
The program is implemented in 30-day blocks each school term. Implementation occurs for one hour each day during the school “study hour”—a period reserved for remedial instruction, catch-up learning, meetings, and/or grading in schools nationwide. While maintaining these core elements, Botswana’s scaling effort has adapted the program to contextualize the approach to suit the needs and circumstances of Botswana. Through an iterative piloting process, Youth Impact has adapted and developed additional elements of the TaRL program for the local context, such as a daily formative assessment or “check point” for each student and a modified approach to how children are grouped into levels.<sup>25</sup> Other notable features of TaRL implementation in Botswana include its staged approach to implementing numeracy and literacy programming and its multiple delivery mechanisms being employed simultaneously.

*Numeracy then literacy.* While most TaRL initiatives have included literacy and numeracy from the start, in Botswana, MESD and Youth Impact decided to begin with numeracy, where there was the greatest need both in terms of learning gaps and gaps in numeracy-based remedial programming.<sup>26</sup> Youth Impact planned to later add a TaRL literacy program when the momentum and scale of the program grew, and in 2022, five years after the first TaRL pilots and with an increased call for literacy programming from MESD due to learning losses from the COVID-19 pandemic, Youth Impact began introducing literacy content into its TaRL activities. Recently, different operational

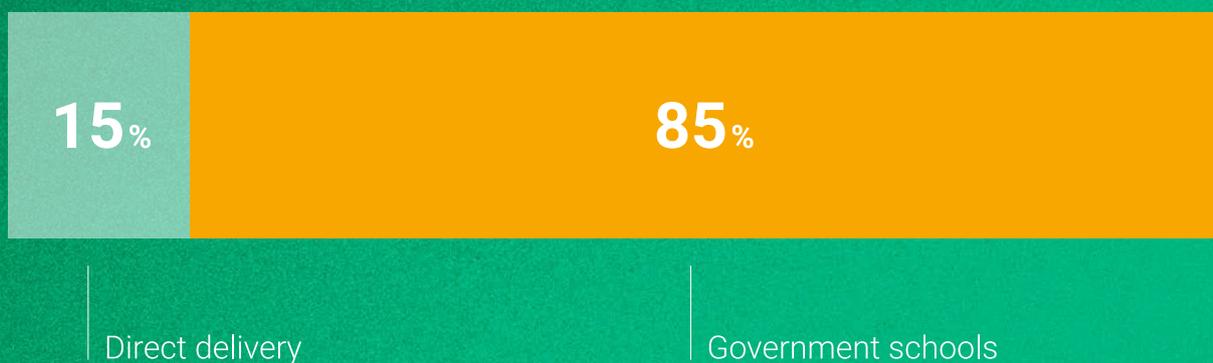
models have been tested, trying both simultaneous and concurrent models (literacy and numeracy during the same period, with time for TaRL doubled during the school day, versus 15 days of numeracy followed by 15 days of literacy).

*Multiple delivery models.* Youth Impact started implementing TaRL with a 30-day proof-of-concept in Thebe primary school in Gaborone in 2018. Over the course of a year with the support of UNICEF, Youth Impact slowly expanded operational pilots to 12 additional schools to build internal organizational capacity and expertise in the program, demonstrate TaRL’s potential to support foundational learning in Botswana, and identify and strengthen partnerships with local MESD representatives. After signing an MoU at the end of 2018 to expand the program further, MESD and Youth Impact have worked to employ multiple delivery models to meet different scaling aims and support a long-term process towards institutionalizing TaRL nationally. Youth Impact deploys its own facilitators in a direct delivery model to engage new regions and test program modifications in an effort to deliver the most impactful, cost-effective version of TaRL designed for scale. Insights from the direct delivery model feed into the government-led delivery model. In this model, Youth Impact trains youth Tirelo Sechaba Participants (TSPs) and primary school teachers to implement TaRL, with a long-term vision of supporting school-based educators to sustainably infuse the TaRL methodology into everyday teaching practice in all 755 primary schools by 2027.

# TaRL Delivery Models in Botswana



## Target percentage of schools implementing TaRL



### **I. Direct delivery:**

TaRL instruction provided by a team of experienced Youth Impact master trainers

- The direct delivery model creates high quality demonstration sites in 50 schools across the country and allows program testing and continuous improvement through a series of randomized A/B tests and more robust monitoring and evaluation.
- The direct delivery model moves between different schools and communities each year to showcase the potential of TaRL to new stakeholders and catalyze interest for the program in new localities.

### **II. Government-led delivery:**

Tirelo Sechaba Participants: TaRL instruction delivered by young people (ages 20-30) participating in the National Service Program, Tirelo Sechaba

- The Tirelo Sechaba program is a national youth employment program administered and financed by MYSC. Tirelo Sechaba Participants (TSPs) are placed as interns in public and private institutions nationally, including schools.
- In this model, TSPs provide TaRL instruction in schools with support from a teacher mentor. This approach allows the program to introduce remedial education into the school day without increasing teachers' workload, while providing teachers with an opportunity to see TaRL implementation firsthand.

- This approach aims to build grassroots demand and support for TaRL by demonstrating the potential impact of the program to teachers. Using TSPs to deliver the program is a way of leveraging an existing workforce with an existing program budget line from the MYSC, serving as a bridge between proof of concept and sustainable national scale.
- There are currently 5000 TSPs employed by the government working in primary schools across Botswana.<sup>27</sup> Since 2017, 199 TSPs have been trained to deliver TaRL across four regions.

### **Teachers:**

TaRL instruction provided by teachers directly to their students during time reserved in the school day for remedial education

- In some regions, teachers have requested to be trained on TaRL after serving as mentors to TSPs delivering the program. In other regions, teachers are trained to be the primary instructors for TaRL from the start.
- The benefits of teacher-led delivery is that teachers already know their students well and can use TaRL to complement existing classroom practice.
- This approach also drives towards long-term sustainability and the goal of infusion into everyday teaching practices, as teachers stay in schools longer than TSPs and TaRL teaching methods can also be integrated into teacher's regular classroom practice, further scaling its impact.
- To date, 230 teachers have been trained to deliver TaRL in Botswana.

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Each education region has jurisdiction to decide whether teachers, TSPs, or a combination of both will serve as TaRL instructors. With Botswana's regions operating in a largely decentralized fashion, regional variation driven by local needs, resources, and priorities has proven to be an asset in the scaling process (for further discussion of scaling by region, see subsection 3 below). However, the end vision is for both the government-led and direct delivery models to catalyze long-term adoption of TaRL principles by teachers in all primary schools. Youth Impact anticipates that this full integration of TaRL methodologies into day-to-day teaching practices will be supported in a diverse and decentralized fashion across education regions. Having a range of ways to support TaRL's institutionalization offers flexibility for local education actors to adapt models and

systems most relevant to local needs. At the same time, multiple delivery models also introduce variability in outcomes and spillover effects. It is therefore important to continue to study the impact of these multiple delivery models and monitor the overall national scaling process for variability in quality and therefore potential equity concerns.

*Minimum viable product.* A further goal of this ongoing adaptation and refinement has been the development of a "minimum viable product" (MVP)—the most impactful, cost-effective version of TaRL designed for scale in Botswana. Youth Impact has pursued the development of this MVP through rapid A/B testing in addition to collecting qualitative data. The A/B tests are designed to test particular components of the TaRL model or tweaks to the approach (see box 2 for more details).

## Box 2. A/B Testing

A/B testing is a methodology traditionally used by the technology sector, which Youth Impact has applied in the social sector. This methodology randomly allocates participants to multiple versions of a program or intervention—'treatment A' or 'treatment B'—and enables causal inference to detect if programs and policies have improved desired outcomes. A/B tests give quick feedback, allowing for rapid iteration and cost-effective optimization of day-to-day operations using short-term indicators of success. A/B test methodology therefore offers a unique approach to generating rigorous insights that are timely and tailored to specific refinements in the TaRL model. For example, in 2020 Youth Impact considered A/B tests to look at the ratio of mentors to teachers, the frequency of checkpoints, and the content of materials. The purpose of these tests is not simply learning about all the different possible variations of TaRL but remains strictly focused on learning just enough to determine the TaRL MVP in Botswana.

In addition to Youth Impact's collaboration with local stakeholders, international partners have also contributed learning and evidence to the adaptation process. Youth Impact maintains relationships with academics and other data-minded organizations around the world, which enables research practices and innovations from academia to radiate

into Youth Impact's systems. Further, the Brookings Institution's partnership through the Real-time Scaling Lab supported the adaptation and iterative scaling process in several ways. These included conducting additional qualitative research and documentation on less tangible aspects of scaling TaRL to complement Youth

Impact's quantitative data; bringing seminal scaling research, literature, and tools to the process; and providing a reflective space for Youth Impact and key partners to think

intentionally about the scaling process and interrogate strategic questions that can be easy to sideline with the daily demands of implementation.

### **Box 3. TaRL Africa Innovation Hub**

In 2019, international partners Pratham and J-PAL selected Youth Impact as the 'innovation hub' for TaRL Africa, serving as a site for innovation, lesson-sharing, and co-training for scale-up efforts of TaRL in sub-Saharan Africa. Youth Impact's commitment to iterative learning and adaptation through testing, engagement with a variety of implementation models and actors, and opportunity to work with the national government to take TaRL to national scale were a few of the reasons the organization was selected. In this capacity, Youth Impact has hosted several international TaRL trainings and learning visits, documented and shared key lessons in frequent publications and presentations, and supported the successful launch of TaRL Namibia.

Botswana serves as an interesting context for generating lessons that may translate into other countries and localities. While Botswana has fewer schools and a higher GDP than many other countries scaling TaRL in Africa—therefore making the scaling process smaller in scope—the country serves as a prime example of how resources are not enough to produce high-quality learning. Documenting, analyzing, and sharing insights about scaling TaRL in Botswana therefore offers opportunities to explore, learn about, and share the challenges and potential of pedagogic reform and systems change—changes that are needed and applicable across contexts. Additionally, Youth Impact has found through supporting the launch of TaRL in Namibia that lessons learned from adapting TaRL to local contexts through mapping content to curricula standards, conducting A/B tests, and nurturing government partnerships can be translated across borders.



Photo Credit: Hannah Blair

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## COVID-19: Creating a window for innovation in the education environment

Focusing events are critical moments, such as crises, that bring a particular issue to the public's and policymakers' attention.<sup>28</sup> These events create opportunities for testing new ways of doing things that would otherwise not be on top of the policymaker's agenda. The COVID-19 pandemic caused countries worldwide to grapple with providing education when schools are closed. Youth Impact used this opportunity to develop, test, and scale an adapted version of TaRL delivered through simple technologies with its ConnectEd program.

When school closures were announced in March 2020, Youth Impact and TaRL facilitators reacted quickly by collecting family phone numbers. This information turned out to be a great resource for both the government and Youth Impact, as it provided an immediate and up-to-date way to stay in contact with families and students. Youth Impact then developed two versions of an adapted TaRL model to deliver to students using only mobile phones. In the first model, students received weekly math problems via SMS, targeted to their individual learning levels. In the second model, students received one-on-one, 20-minute weekly follow-up phone calls in addition to the weekly SMS. During the call, Youth Impact facilitators talked to the parents to check in on the child's progress and then worked with the student to go through the problems sent that week.<sup>29</sup> Youth Impact facilitators made calls to students to enroll them in the program and assess their learning level. Then Youth Impact delivered both models over a 12-week period. Results from a study of the program showed that students who received both the phone calls and SMS messages improved their math skills during this period. Moreover, evaluations of ConnectEd in settings in which students had returned to school showed the program continued to be effective at

improving learning even after schools reopened. As such, Youth Impact intends to continually deliver ConnectEd in Botswana and beyond.

While in-person meetings were not possible, throughout the pandemic Youth Impact remained in regular communication with key MESD TaRL leaders via WhatsApp, email, and Zoom calls, to discuss both TaRL and ConnectEd and to provide support to the MESD's COVID-19 response, even when not related to TaRL.

## What challenges were faced or adaptations made?

*Constraints in the enabling environment.* The use of TSPs to deliver TaRL was a purposeful decision to create sustainable ownership from the government and engage existing, underutilized human and financial resources already in schools. Nevertheless, challenges have emerged with this delivery approach, given perceptions around the lack of formal qualifications of TSPs, the high turnover rate and the resulting need to provide continuous training on TaRL for new TSP cohorts, and the division of TSP oversight and training between MYSC and MESD. MESD and MYSC work together to recruit, train, deploy, and support TSPs in schools. The inter-ministerial collaboration has often worked well when it primarily focuses on logistical collaboration, namely identifying and placing TSPs in schools. Areas such as TSP capacity-building and training, however, can be more challenging due to a lack of clarity on responsibilities. MYSC has funds to support TSP training but once TSPs are allocated to schools, MESD becomes responsible for their training and development. However, MESD can find it difficult to justify allocating funds and resources typically earmarked for teacher in-service training toward TSPs. Further, many regional leaders have faced challenges securing and sustaining sufficient numbers of

TSPs in schools to implement TaRL and the recruitment process can be particularly time consuming.<sup>30</sup> In light of these challenges, Youth Impact is training more teachers and exploring ways to engage TSPs for longer amounts of time.

*Maintaining quality, cost-effective training at scale:* A core strength that Youth Impact has brought to TaRL has been its experienced and engaging training team. These Youth Impact trainers have played an integral role in introducing teachers, TSPs, and district coordinators to the TaRL approach through high-energy, activity-based trainings that mirror TaRL sessions with their use of hands-on learning. However, as TaRL has expanded to additional regions across Botswana and more teachers and TSPs require training,

the high amount of staff time and costs required to send Youth Impact trainers to regions for multiple days or bring participants to a central location have necessitated adaptations to the model. This need to adapt training approaches as scaling progresses in order to maintain affordability and advance institutionalization without losing quality has similarly arisen in the other RTSLs, which have seen cost challenges with intensive in-person training but also diminishing quality with less expensive cascade approaches. To address this challenge, other labs have considered hybrid training models (Côte d'Ivoire) and tested teacher learning circles (Jordan). Regardless of the approach, it is important to continuously assess cost and quality to find a viable approach to training that can be sustained at scale.



Photo Credit: Chisala Mipata

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In Botswana, both the number of days and the number of Youth Impact staff have been reduced to make training sessions more manageable and sustainable. Long-term, the aim is for the government to increasingly take on not just the logistics but also content delivery for the training. Institutionalizing capacity for training will help avoid what List refers to as the “chef vs ingredients” scaling hurdle,<sup>31</sup> where innovations that rely on one chef (or master trainer) can diminish in quality as they expand. One of the most pressing priorities for Youth Impact and MESD moving forward is to identify ways to sustain quality TaRL training at minimal cost, while increasing the size and scope of trainings across Botswana, and gradually capacitating government systems to deliver parts of training.<sup>32</sup> One way to consider doing this is through a peer coaching approach

that moves away from one-time trainings and towards a greater focus on leveraging educators' own knowledge and skills to build capacity through scaffolding, mentoring, and continuous learning processes.<sup>33</sup> However, it is important to note that scaling teacher coaching programs brings its own challenges of quality and affordability that must be addressed.<sup>34</sup> Another approach, which has been considered from the beginning but which has not been tested to date, is to explore how to integrate TaRL training into pre-service teacher training programs in addition to offering in-service training. This could create a sustainable delivery pathway institutionalized into existing systems, reduce training costs, and help ensure that teachers are trained on TaRL approaches regardless of location or presence of champions in their region.

### **What are the key takeaways?**

1. An adaptive, data-driven approach to scaling, supported by regular opportunities for reflection, is critical, not just in the initial development or pilot phase but throughout the entire scaling process.<sup>35</sup> A/B tests can play a useful role in improving an education model that is designed for quick measurable results to better suit a specific context and identify the leanest, most cost-effective model for scaling. A/B tests may not be suited to refining every program though, so it is important to consider whether they are a good fit.
2. It is essential to deliberately create space and time for reflection, testing, collaborative learning, and adaptation within a scaling process.<sup>36</sup>
3. The challenge of maintaining quality, affordable training when scaling and strengthening system capacities is common and has been observed in all the RTSLs in some capacity.<sup>37</sup> One approach to consider to help address this challenge is providing opportunities for teachers to come together more frequently (in person or virtually such as on WhatsApp) for peer learning, support, and collective problem solving.<sup>38</sup> Another is to explore infusion into teacher pre-service education.



Photo credit: Tendekai Mukoyi

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### 3. Pursue demand-driven scaling with a focus on regional champions

Youth Impact has sought to create coalitions with leaders across multiple levels of the education system, from the grassroots to the highest political levels, to support scaling TaRL. Youth Impact decided to focus not just on cultivating the most influential actors, but on those leaders and champions that they felt exemplified excellence in their vision, work ethic, and commitment to seeing evidence-based innovations come to fruition. Rather than pursue a solely top-down approach to scaling, Youth Impact has also pursued a demand-driven approach, with a strong focus on expansion at the regional level supported by grassroots demand. This scaling strategy was designed and refined in response to witnessing strong success and uptake at the regional level, as well as to shifts in the broader policy landscape. In recent years there has been a move towards decentralization at the MESD, with decision-making power transitioning away from the center to the regions. As part of this, the central government made clear that it did not want to force solutions onto individual regions, but instead to provide regions with a basket of options to choose from, including TaRL. As this transition took place and Youth Impact also saw TaRL gaining traction at the regional level, the organization adapted the scaling strategy to focus on regional government adoption and scaling, while maintaining a long-term goal of national scale.

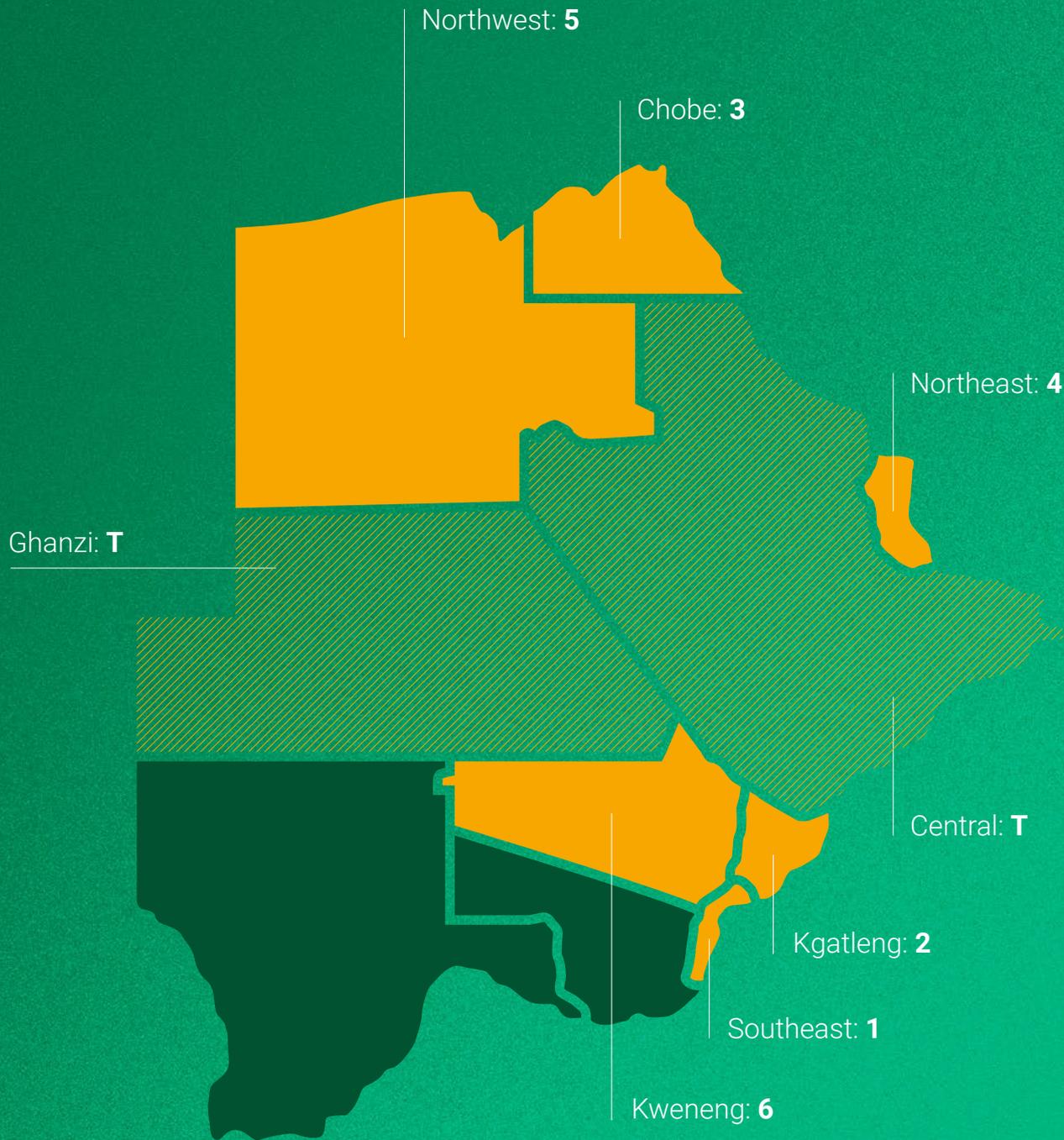
#### **"Follow the leader" approach to regional scaling**

Within this strategy of scaling region by region, Youth Impact focused on selecting

regions based on the presence of strong individual champions who were enthusiastic to bring TaRL to their communities—what Youth Impact terms a “follow the leader” approach. For example, when a key early champion for TaRL moved from one region to the next, Youth Impact was eager to “follow” him and maintain momentum and support for TaRL implementation in the new location, rather than continue implementing in the original location without him.<sup>39</sup> This approach attached TaRL to effective leaders and leveraged their skills, resources, and networks for scaling. The DPS facilitated connections between Youth Impact and other key leaders, helping gain access to and cultivate champions at the regional level. However, at times this strategy has meant privileging working with strong advocates for the program who may not be located in the most strategic or relevant decision-making roles.

The cultivation of regional champions for TaRL was not only beneficial within each region, but also supported expansion, as champions supported Youth Impact in choosing new regions for scaling. Regional champions also helped to make the case for TaRL to more skeptical regional leaders through the power of “near-peer” relationships, which the work of Rogers has shown to be an important factor in the adoption of a new idea or innovation.<sup>40</sup> Champions have been further instrumental in fostering buy-in from teachers and schools. For example, in one region the presence and active participation of a key champion at the TaRL training sessions was helpful for modeling engagement to teachers and showing that high-level leaders understood how the program worked at the classroom level.

## Scaling TaRL by region (2018 – 2022)



### Legend:

Number = Order in the scaling journey;  
T = Sensitization training

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## Cultivation of a diverse coalition of champions at all levels

Champions played an important role at other levels of the education ecosystem as well. For example, fostering strong relationships with education leaders at the national level drove progress on policy design and considerations for national scale, while engagement activities at the local level helped foster grassroots demand. For example, sensitization meetings for Principal Education Officers (PEOs) and school leaders in both the Northeast and Northwest regions played a key role in generating buy-in ahead of the official TaRL training and implementation. At the school level, school leaders worked with Youth Impact sub-regional coordinators to create and distribute letters to parents and the community to sensitize them to TaRL and generate interest. Finally, both regions activated local media including newspapers and radio and shared stories about TaRL to generate widespread interest and demand.<sup>41</sup>

## What challenges were faced or adaptations made?

*High turnover rates among leaders and champions.* While turnover occurs more frequently at the national level—for example, there have been three PSs of Education in the past three years—it also poses challenges at the regional level. When key champions leave a focal region or change roles, Youth Impact has had to re-establish relationships and re-sensitize new leaders to TaRL. Regions where TaRL implementation has been most inconsistent or where it has stalled after the first year are typically those marked by the departure of key champions.<sup>42</sup> Government personnel transition is a known challenge of scaling in education,<sup>43</sup> and was also a challenge experienced in the other RTSLs, but its effect might be felt more acutely in this case where the scaling strategy is heavily champion-centric. Youth Impact has worked

to address this issue by demonstrating their long-term commitment to relationships, not only through the formal MoU, but also through persistence and continually showing up to government offices, with informal check-ins often leading to more formal meetings to discuss substantive ideas for scaling. Further, Youth Impact has worked to deepen relationships by maintaining an organizational presence in regional MESD offices through seconding staff to support regional delivery, adaptation, and institutionalization. This arrangement promotes Youth Impact officers being seen as part of the regional government staff, rather than just connected to a single champion, and strengthens the partnership as well as reception by local schools.

*Equity implications of a scaling strategy centered on champions.* As an intervention, TaRL has a strong equity focus, since it is designed to support marginalized learners who are pushed through the education system without acquiring foundational literacy and numeracy skills. However, the "follow the leader" scaling strategy might bring potential equity considerations, as the regions with leaders who are disinterested or have different priorities risk being left behind or having less success replicating TaRL in the future. It was observed that the COVID-19 pandemic exacerbated these gaps, with those regions with strong leadership continuing to move forward, and those without falling farther behind.<sup>44</sup> Regional leaders have similarly tended to pursue a phased approach to scaling that starts with schools where they think TaRL is most likely to be successful—often in urban areas or in higher resource schools. The intention of this type of "follow the leader" or "early adopter" strategy is that government champions for TaRL can influence their less interested peers to adopt the approach in the future, but the success of this approach for reaching all children will need to be assessed over time.

## What are the key takeaways?

1. Fostering strong champions is not a one-off activity but a continuous process of relationship building that requires cultivating connections with diverse groups, listening genuinely and openly to their concerns and priorities, and responding to the goals and needs expressed by leaders. Often it means becoming part of the broader social ecosystem in the education landscape and demonstrating long-term commitment to achieving shared outcomes. This aspect of scaling is not merely a technical activity, but reliant on human connection, communication, and individual relationships.
2. Champions at all levels of a system are important, but different levels of decentralization and different scaling strategies may change which level of champion is most critical in a specific case.
3. A "follow the leader" approach to scaling—where the expansion strategy is primarily driven by the presence and location of motivated champions—can help link an innovation to key players in the education system and leverage their own networks and resources for scaling. Champions within government can also play an important peer advocacy role for an innovation to more skeptical peers, potentially to greater effect than advocacy from an external organization.
4. At the same time, scaling requires balancing tradeoffs, given the limitations of human and financial resources and the constraints of the broader enabling environment.<sup>45</sup> It is important when pursuing a demand-driven scaling strategy to also keep sight of other considerations—such as equity—to ensure that areas without a champion are not left behind and that scaling is not only focused on the "low-hanging fruit."

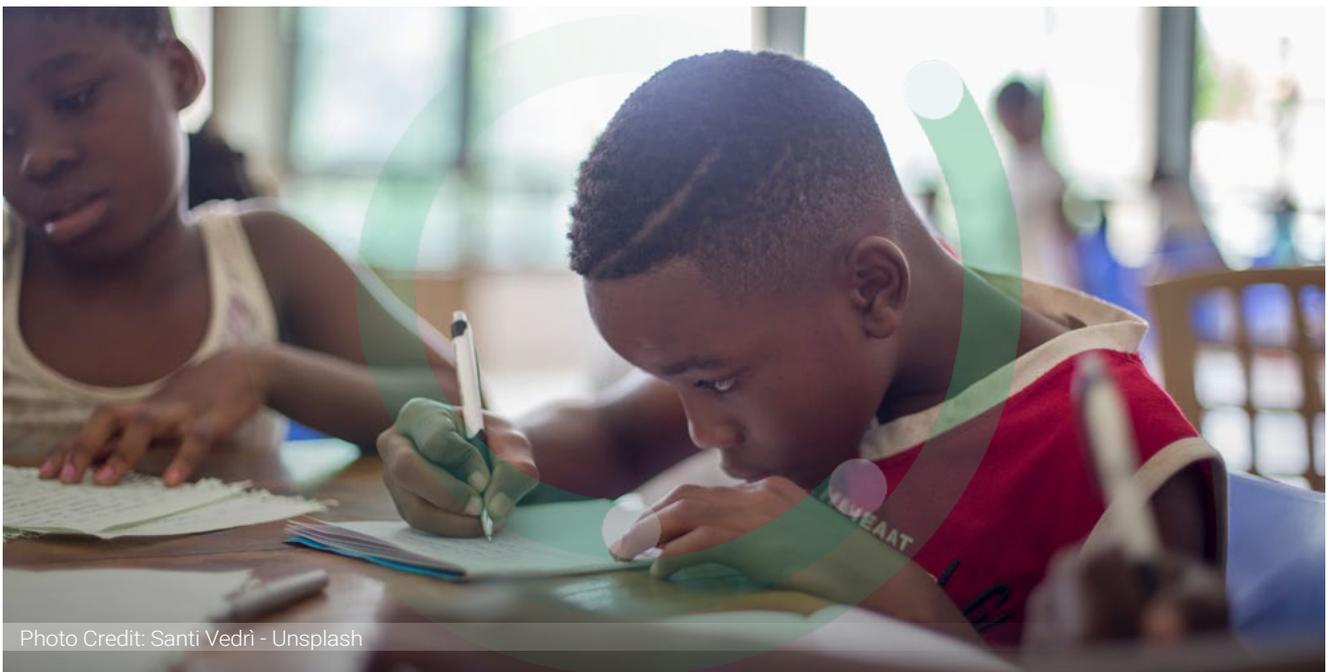


Photo Credit: Santi Vedri - Unsplash

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## 4. Use tailored and timely data as fuel for scaling impact

Finally, data collection, analysis, and sharing have been critical at each stage of the process of scaling TaRL in Botswana due both to the nature of the intervention and the nature of Youth Impact, an organization whose mission emphasizes the importance of strategic use of evidence. Within the classroom, TaRL requires instructors to generate, analyze, and use student learning data in order to appropriately identify student levels and then target instruction to students' needs.<sup>46</sup> Beyond the classroom, using data strategically has helped Youth Impact demonstrate TaRL's potential by making learning gains visible, informing adaptations, fostering buy-in across the system, seeding new education alliances, and continuously monitoring the quality of implementation in the different delivery mechanisms. The organization's orientation to data use and ability to communicate data and research findings clearly, consistently, and accessibly to different external stakeholders has been instrumental in sustaining momentum for TaRL (for example see the YI public TaRL dashboard which is regularly updated with new data). Youth Impact strategically tailors the type of data used and shares it based on the interests and needs of different audiences and the intended objectives, rather than relying on a one-size-fits-all approach.

### **Diverse forms of data used to demonstrate results and build engagement**

*Using international and local data to highlight the problem and tailor the innovation.* In the initial stages, international and local data was used to underscore the scope of the challenge in Botswana and demonstrate that the MESD's priority policy of remedial education might be useful not only for a small number of children but for a majority of students in primary grades. Results from

the Southern and Eastern Africa Consortium for Monitoring Educational Quality, an international assessment of student learning levels in 16 countries,<sup>47</sup> showed that only 10% of Botswana students were at grade level in 2013. While the MESD was already aware of the issue, this finding highlighted the extent of the challenge, including that Botswana had much lower learning outcomes than many neighboring countries, even though the country funds education at a higher rate than many of its neighbors.<sup>48</sup> Youth Impact and the University of Botswana complemented this data with a focused needs assessment on basic literacy and numeracy learning levels using the TaRL assessment tool.<sup>49</sup> This study showed that only 10% of primary students in Botswana were at a basic numeracy level and 40% could not read a simple story, indicating that a targeted remedial education approach such as TaRL could be beneficial for addressing the problem.<sup>50</sup>

Using the TaRL assessment tool to explore learning levels in Botswana also informed how to tailor TaRL to the Botswana context. For example, Botswana students showed very high levels of number recognition but poor fluency in basic mathematical operations like addition and subtraction. This suggested that instead of grouping students by their number recognition capacities (as was done in the original TaRL approach in India), students should be grouped and receive targeted instruction according to their proficiency in basic mathematical operations. Grouping students by operations instead of digit recognition was one of the first and most important program adaptations for local relevance and early impact.

*Using data to illustrate program potential.* Youth Impact coupled the data on student learning in Botswana with international data showing the impact of TaRL in other contexts—including 7 RCTs<sup>51</sup>— to make

the case to the MESD and MYSC of TaRL's potential to improve learning outcomes. They then piloted TaRL with UNICEF, in order to provide additional local evidence and secure government buy-in to allocate resources to implement TaRL in 700 schools. Over the past several years, Youth Impact has continued to use process and learning outcome data to demonstrate the results of TaRL implementation as well as to track the quality of delivery. For example, in 2022 they shared data showing that with 30 hours of

TaRL instruction by government teachers and TSPs, 70 percent of students gained numeracy skills and the share of children mastering all four basic operations increased from 11 percent to 40 percent.<sup>52,53</sup> In 2020, Youth Impact also found a strong relationship between student's participation in TaRL and their success on the national standardized grade 4 exam in a sub-sample of five schools, with each new operation learned in TaRL sessions associated with a 6.58 percent increase in exam scores.<sup>54</sup>

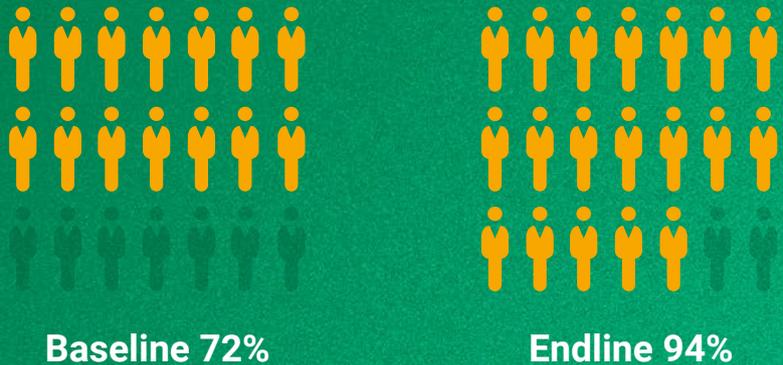


Photo Credit: Tendekai Mukoyi

# Learning outcomes for students participating in TaRL (2022)

After 30 hours of TaRL instruction

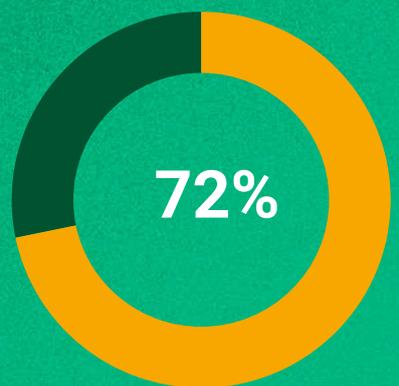
Percentage of students who can do at least one operation



Share of students mastering all four basic operations



Percentage of students who gained numeracy skills



*Collecting and sharing just enough timely data.* Youth Impact developed streamlined monitoring, evaluation, and learning systems for data collection and analysis in both the direct delivery and government delivery models. While the systems are similar and generate the same types of data, in the government-led system only the most essential data are sent back to Youth Impact for disaggregation and analysis. This reduces the time needed for data submission by government implementers and helps the program remain lean for scaling. In the direct delivery schools, Youth Impact conducts rapid A/B tests to test program optimizations (e.g., children can be subgrouped along attributes—like learning progress or gender—during small group activities to maximize impact) and generate quick insights to inform program adaptation throughout the scaling process. Youth Impact shares data on learning outcomes from TaRL on a live data visualization dashboard, enabling stakeholders to view results in real-time. Additionally, Youth Impact routinely holds check-in meetings with district leaders to share student learning, creates 1-page overviews of student results to share with stakeholders, and develops a yearly evaluation report for the MESD, with input from the Director of Basic Education to ensure the document is useful for ministry decision-making.

*Not just numbers: Using visible progress and testimonials as data points.* In addition to student assessment scores, Youth Impact has leveraged the visible results of children's progress and testimonials from students, teachers, and community members to showcase the outcomes of TaRL implementation and foster buy-in among diverse stakeholders.<sup>55</sup> Youth Impact has

prioritized bringing high-level actors to visit schools to observe TaRL in classrooms to see student energy and learning in person.<sup>56</sup> These visits have also enabled government leaders to hear directly from teachers and school directors about their experiences and witness grassroots demand for TaRL. At the local level, visual learning progression charts are hung in classrooms to make children's learning apparent to families, community members, and the children themselves, and "Celebration Days" are routinely held to make student achievement visible to the community.

*Cost data.* Early TaRL cost data informed Youth Impact's program design and encouraged the organization to expand the program slowly in order to keep costs manageable while examining opportunities for cost savings. Youth Impact also conducted cost-effectiveness, budget versus actual, and variance analyses over the past several years, which have further informed program and expansion decisions. For example, the 2019 cost-effectiveness analysis motivated Youth Impact to halve the total number of training days from ten to five—a significant cost savings measure. This analysis also informed regional expansion decisions, such as determining one of the most cost-effective options is to be based in government ministry offices (where space is given freely).<sup>57</sup> Since 2021, Youth Impact has also tracked government in-kind contributions; capturing this cost information is useful for understanding what types of funding can reasonably be requested from specific regions and for setting benchmarks and expectations when expanding to new regions. It will also be useful for assessing changes over time to inform the development of costed scaling plans for MESD to sustain national scale.<sup>58</sup>

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## What challenges were faced or adaptations made?

*Data overload.* In the first year of TaRL program design and implementation in Botswana, more complex process monitoring data was captured. However, Youth Impact soon found that it was too much data; it was difficult to process and make use of the full data points.<sup>59</sup> As a result, Youth Impact simplified the complex system, with the intention that enough information be gathered to ensure implementation occurred and the program was effective while not overburdening TaRL implementers with complex data procedures.

*Limited government capacity.* MESD data collection systems were not designed to be tools for rapid analysis and innovation; they were designed to support infrequent high stakes exams like the Primary School Leaving Exam. Thus, the government's capacity to take on the full scope of frequent data collection, analysis, and use central to the TaRL model has at times been limited. Youth Impact has found, however, that with support, government monitoring and evaluation systems can be bolstered to collect and analyze learning data more frequently. Youth Impact officers who are seconded to the regional MESD offices support TaRL data collection and interpretation from the school to the region. These officers are critical in demonstrating how data can be used in decision-making to teachers, school leaders, and MESD regional leaders, supporting local actors to appreciate data collection not just as a monitoring exercise but as a tool to directly support classroom practice and learning.

Nonetheless, Youth Impact anticipates the process of supporting government systems to lead on TaRL data collection and analysis processes will be a gradual one, taking place over multiple years. This challenge is far from unique to Botswana and is a common issue observed when scaling innovations through institutionalization, including in the RTSLs in Côte d'Ivoire and Jordan.<sup>60</sup> Recognizing the evolving roles of both the organization that originated the innovation and the institution adopting it for large-scale (often the government) and assessing how capacity can be transferred between them is a key step that should be deliberately planned for from the earliest stages of the scaling journey.

*Limitations of cost analysis for scale.* To date there has been limited analysis of the costs of delivering TaRL at large-scale. Cost and long-term financing conversations have not progressed significantly with national government partners and have primarily taken place at the regional level. Youth Impact estimates that this lack of focus on scaling costs at the central MESD may be because government education budgets are largely well supported in Botswana and financial stress may not be a deep concern at the moment. Or, TaRL may not be perceived as a costly addition, but rather a useful solution that fits within MESD priorities for which there are existing government funds.<sup>61</sup> Though the MESD has consistently allocated government resources to TaRL thus far,<sup>62</sup> more detailed analysis on the costs of scaling and sustaining TaRL will be essential, and in particular on what elements of delivering TaRL cannot be covered under existing government budget lines, including MEL systems, trainers' time, and A/B testing.

## What are the key takeaways?

1. Diverse types of data and information should be used to support scaling processes, program design and ongoing adaptation, and decision-making internally and externally, tailoring the strategy based on the audience and objectives.
2. More data is not always better. It is preferable to collect "just enough" data that can be used to directly inform decision-making and adaptations in a timely manner.
3. Visible results and testimonials witnessed in person can have a strong impact on building support and enthusiasm among key stakeholders and can be more compelling than numbers alone. Pairing the two can provide stakeholders the opportunity to connect the energy and excitement observed in the classroom to quantitative results.
4. Strengthening government capacity and skills for data collection, analysis, learning, and rapid innovation is an important component of a scaling strategy focused on institutionalizing an innovation within government systems.
5. Cost data and analysis is essential to informing scaling decisions, including how to streamline an initiative for sustainability and pursue a scaling strategy. If the long-term goal is institutionalization of delivery into government processes, analysis must be done of how to integrate costs into existing budget lines and systems.



Photo Credit: Tendekai Mukoyi

# Where to go from here?

From one school in Gaborone in 2018 to reaching over 20 percent of the primary schools in Botswana in 2022, significant progress has been made on the journey to scale TaRL in Botswana. By 2027, the government hopes to see TaRL in all primary schools in the country. Nevertheless, scaling is a long-term process and there is still a great deal of work to be done to achieve this goal. Over the next few years, the following activities could be beneficial to continue progress towards national scale and government ownership of TaRL:



1. **Continuing to refine a cost-effective training and mentorship model for teachers and TSPs.** Given that training is a common scaling challenge, and one being explored in many countries implementing TaRL, it would be valuable for TaRL Botswana to engage TaRL Africa and other partners in sharing related experiences about training models.



2. **Exploring ways to integrate TaRL training into the existing pre-service teacher training system,** building on existing pre-service content on individualized instruction and student-centered learning and in partnership with academic institutions and the Ministry of Higher Education. It would be beneficial to pursue pre-service training pathways alongside efforts to strengthen and adapt the in-service training as a sustainable means to train all teachers in Botswana on TaRL. Ensuring all teachers

have TaRL skills will also make it easier to scale to new regions and areas and help to meet the long-term goal of infusing TaRL into everyday teaching practice.



3. **Ensuring TaRL has a realistic budget** line item in the MESD's budget based on a costed scaling plan to cover training, implementation, and monitoring, evaluation, and learning (MEL).



4. Leveraging the specific knowledge and expertise of Youth Impact and the ongoing partnership with MESD **to further strengthen and support government capacity and competencies for ongoing MEL,** especially around timely data, rapid innovation, and feedback loops.



5. Implementing the recommendation in the new MoU between Youth Impact and the MESD to **regularly convene a group of key stakeholders to discuss the progress of scaling TaRL and make real-time decisions about the scaling journey** and ways to advance toward the long-term goals. Bilateral meetings with key stakeholders are certainly important, but the value of convening actors with diverse perspectives and viewpoints should not be underestimated.



6. **Maintaining a focus on reaching areas and schools where there is the greatest need for TaRL.** This may require a more targeted advocacy and sensitization strategy to foster the buy-in and support of local communities and school leaders. The direct delivery approach may also afford an opportunity to demonstrate what is possible for the most marginalized children or hardest to reach areas.

The lessons learned thus far from scaling TaRL in Botswana—including leveraging windows of opportunity at the intersection of problem, policies, and priorities; continuing to foster a culture of flexible adaptation and learning; pursuing a demand-driven scaling strategy focused on regional priorities and grassroots demand; and using timely and tailored data as fuel for scaling—provide insight into how the TaRL scaling journey can continue to progress and be further strengthened in Botswana, but also offer lessons that may be useful for other education actors supporting efforts to scale and sustain the impact of TaRL and other education innovations in diverse contexts across the globe.

# Annex I

## Teaching at the Right Level

### Botswana Scaling Timeline

#### Implementing through government-delivery models

MESD presented TaRL at national school heads meeting and carried out trainings in Chobe, Kgatleng, and Southeast regions

#### Assessing the need

Youth Impact conducts situational analysis of foundational learning in Botswana, confirming low numeracy and literacy rates in grades 3-5

#### Pilot testing TaRL & establishing partnerships

MoU signed between MESD and Youth Impact and 30-day proof of concept for numeracy in 1, then 4, and then 10 schools.

#### Learning about TaRL

Youth Impact hosts annual Advisory Forum where TaRL is discussed as a viable evidence-based program for Botswana



- DPS of MESD learns about TaRL at an education conference in London
- Youth Impact attends a TaRL training in Zambia



- TaRL numeracy program design and operational tests in 2 schools
- Youth Impact travels to Zambia for a TaRL learning visit



- Established partnership agreement between Youth Impact and UNICEF
- Joined PAL network and hosted TaRL Africa Learning Journey
- Carried out sensitization in Kgatleng and Chobe regions



- PS observed TaRL implementation in schools
- Identified diverse array of short- and medium-term funding for TaRL to complement government financial and in-kind resources
- Established Youth Impact as TaRL Africa Innovation Hub and hosted TaRL Africa international workshop and training
- Launch of RTSL in Botswana and detailed draft scaling plan developed

**Training teachers to deliver TaRL**

Youth Impact conducted central training for 17 schools in 4 regions, including the Northeast, the first training to include teacher mentors

**2020**

**Adapting to COVID-19**

Schools closed during nation-wide COVID-19 lockdown for 4 months and partners developed and tested digital (SMS + phone calls) TaRL-inspired program

- Reassessed implementation plans with MESD partners
- Provided virtual school support in Northeast
- Shared learnings with Educate!, RISE, the Ministry of Education of Sierra Leone, and TaRL Africa
- Piloted digital program model in Nepal
- Finalized scaling plan and evaluation report with MESD

**Expanding to new regions and approaches**

Established digital program as its own initiative—ConnectEd, conducted literacy program pilot and training, and signed updated MoU with MESD and Youth Impact

- Schools closed again during nation-wide COVID-19 lockdown for 3 months
- Youth Impact carried out learning visits, action planning meetings, and refresher training in the Northeast

**2021**

- Carried out re-sensitization session in Chobe and Southeast and training for TSPs in Chobe
- Conducted sensitization and school head training in a new region, Northwest
- Carried out RCTs of ConnectEd program in Kenya, Nepal, Uganda, and the Philippines
- Conducted internal scaling workshops to reevaluate scaling plan after COVID-19

**Introducing literacy curriculum**

TaRL literacy program rolled out in all 5 regions

- Piloted sequential delivery of numeracy and literacy content in the same school day and trained 70 facilitators in literacy program

**2022**

- Teacher implementation of TaRL in Northwest and Northeast – first use of government delivery teacher implementer model
- Conducted virtual national training for Principal Education Officers across Botswana's ten regions and first virtual refresher training
- Identified Kweneng as new region for scaling and conducted sensitization for 92 school heads
- Held meetings with Northwest regional management on how to scale TaRL in the region
- Secured additional funding to test various TaRL implementation questions

**Delivery TaRL in all schools with quality**

Infuse TaRL methodology into everyday teaching practice among teachers in grades 3 to 5 in all 755 primary schools in Botswana.

**2027**

# Annex II

## Methodology

This case study was developed using a participatory, action research approach in which mainly qualitative and some quantitative data was collected, collaboratively analyzed, and fed back into the work being studied. The study is part of a multiple case study design with each RTSL serving as an individual case and each employing a shared approach to data collection, analysis, and reporting. Flexibility was embedded in the approach to allow for the emergence of unanticipated aspects.<sup>63</sup> The approach was based on practice-oriented research design and a systematic but flexible methodology aimed to improve education practice through collaborative, iterative data collection, analysis, dissemination, and uptake among researchers and practitioners.<sup>64</sup> The RTSL approach was developed and informed by the findings of the first phase of Millions Learning,<sup>65</sup> as well as seminal scaling literature,<sup>66</sup> collective impact, innovation hubs, adaptive learning mechanisms, and a wide range of related methodologies and frameworks such as improvement science, systems thinking, and change management.<sup>67</sup>

The study undertook two strands of research: 1) learning more about **how scaling happens**, and in particular, testing assumptions that underlie key scaling drivers identified in CUE's and others' previous research and developing new theories as needed; and 2) learning more about **how to support the process** of

scaling in education and investigating the role that a continuous learning approach with intermediary organizations might play. While much evidence exists already about **what** key scaling drivers are, more evidence and guidance are needed on how scaling takes place and how previously identified drivers play a role, particularly in education. For this case study in particular, CUE specifically examined (1) TaRL's scaling journey in Botswana, (2) scaling constraints faced and addressed during the process, and (3) if and how the RTSL contributed to the scaling process.

Data was collected by CUE and Youth Impact through primary and secondary means. For the primary research, CUE developed a set of tools to document the lab participants' scaling journey, the role of key scaling drivers in scaling impact, and the progression of the RTSL itself. To analyze the data, CUE and Youth Impact employed a conceptual framework for scaling in education developed from a review of the scaling literature and further refined by the Millions Learning project. The Millions Learning framework includes 14 core ingredients (or key scaling drivers) that, in different combinations depending on context, contribute to the scaling of effective innovations and practices that improve learning. These core ingredients are elements found to be essential for designing, delivering, financing, and fostering an environment that enables sustainable

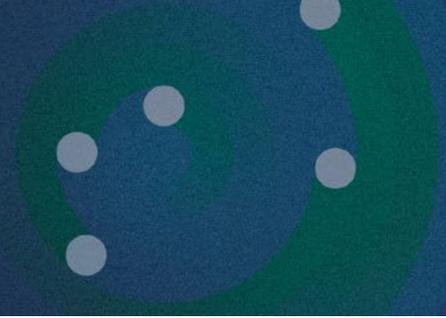
scaling of proven quality education.<sup>68</sup> Additionally, we employed the Multiple Streams Framework and policy transfer literature to better understand the policy adoption process.

For this report, data were organized and coded by individual scaling driver or issue—drawing from the original list of 14 core drivers while also seeking to identify additional drivers, levers, or themes not included in the original framework. From this coding, CUE and Youth Impact collaboratively identified an initial list of themes and topics emerging as relevant or interesting. They then worked to refine and flesh out these themes and topics and develop an initial set of findings through further consideration of the coded data and triangulation of information. To identify areas of convergence and divergence—as well as possible alternative explanations of findings—CUE cross-referenced the findings with the existing science of scaling literature, as well as compared the results of this case study with experiences in other Real-time Scaling Labs. Through several rounds of further investigation, consultation of data, and analysis, CUE and Youth Impact continued to refine their analysis. Findings were shared with peer reviewers, before finalization.

As with any research design, there are limitations to a case study-based approach, including the inability to demonstrate

causation or make broad generalizations. Since the conditions in each of the cases is unique, our findings highlight specific scaling journeys to provide a better understanding of the different pathways of scaling, which may limit the transferability of conclusions. Further, there are also potential biases of a co-authorship approach, wherein one of the key stakeholders in the case study (Youth Impact) contributes significantly to its analysis and writing. While acknowledging this potential bias, CUE and Youth Impact deliberately chose a co-authorship approach in the spirit of participatory research, collaborative learning, and the intention to generate knowledge that is useful for the local context and practitioner oriented. Additionally, CUE recognizes that playing an active role as an intermediary in supporting scaling in each case also has the potential to introduce bias into the analysis. In particular, there is risk that the role of Brookings— a well-known think tank—influenced the scaling process and role of key drivers during the RTSL process in a manner that would not hold true without its involvement. By outlining these limitations, CUE aims to ensure transparency with the reader. In addition, CUE has employed strategies to reduce subjectivity and biases by sharing how our backgrounds could influence the research and providing the reader with thick description to allow the reader to understand the context better.<sup>69</sup>

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