

## 2. Reflections on systems practice: implementing teaching at the right level in Zambia

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### INTRODUCTION

Evidence suggests that if a child does not learn basic literacy and numeracy skills in the early grades of primary school, they get left behind in the higher grades – no matter how many years they spend in school. In middle to upper primary school, most curricula move away from building foundational skills, so children who have not grasped these skills do not have the opportunity to catch up. In many parts of the world, non-proficiency in primary schools is a widespread and systemic problem. Nonproficiency rates are the highest in sub-Saharan Africa, where in 2015, 88% of children (202 million) who are of primary and lower secondary school age were not proficient in reading, and 84% (193 million) were not proficient in mathematics (United Nations, 2019). Central and Southern Asia does not fare much better: 81% of children (241 million) were not proficient in reading, and 76% (228 million) lacked basic mathematical skills (United Nations, 2019).

In the early 2000s, Pratham, one of India's largest education NGOs, developed what has now become known as Teaching at the Right Level (TaRL) to respond to the failure of the education system to ensure that children obtain a solid grasp of basic literacy and numeracy skills before they leave primary education (Pratham, 2022). Rather than attempting to diagnose and fix the multiple failures of the system that have all contributed to this problem (e.g., ambitious curricula, underpaid teachers, lack of supervised on-site training, meagre teaching supplies, etc.), the TaRL

method zeroed in on the classroom practices, with a focus on enabling and motivating teachers to ensure all students attain basic literacy and numeracy skills. At the classroom level, TaRL is a flexible teaching approach that enables teachers to assess children using a simple tool and then group them according to their learning level rather than their age or grade. Each group is taught starting from what the group already knows, using hands-on learner-centred exercises and methodologies. Children move quickly through the groups; for example, children who master letters then move to a group focused on words. Throughout the entire process, teachers assess their pupils' progress through an ongoing, simple measurement of their foundational skill performance rather than relying on end-of-year examinations. The key to the approach is a short feedback loop between hands-on and adaptable teaching methods and rapid tests, which motivate both students and teachers who can see the progress. Several randomised controlled trials (RCTs) conducted by Pratham and the global research centre Abdul Latif Jameel Poverty Action Lab (J-PAL) have demonstrated that when implemented well, the TaRL approach is effective, works at scale and has led to some of the largest effect sizes rigorously measured in the education literature (Poverty Action Lab, 2019).

Given that TaRL can successfully address a problem that is prevalent and persistent in many Global South countries, one way to maximise reach is by embedding TaRL into public education systems, which have both the mandate and scale required for maximum impact. However, decades of development research have demonstrated that powerful forces keep most public systems stable and that even the most effective solutions and the most convincing evidence are not alone sufficient to spur a system to sustainably change how it functions (Andrews, 2013; Teskey, 2019). Translating a policy change into long-term improved systemic practices takes time and depends on a number of different – and often changeable – factors, including formal ones such as regulations and budgets, but also informal relationships, motivations and incentives. Understanding this complex picture and working with a range of actors is the starting point for TaRL Africa, an initiative created by J-PAL and Pratham to improve learning delivered by African education systems. TaRL Africa's approach is to use the robust yet adaptable TaRL methodology as a springboard for dialogue and co-creation with key actors in a given education system, with the goal of not only improving the acquisition of basic skills for millions of children, but also to reorient education systems to a significantly higher order of functioning.

In the current chapter, we examine the approach of TaRL Africa by drawing on systems theory and illustrating this approach through the case study of how TaRL was introduced – and continues to evolve – in the Zambian education system. TaRL Africa does not subscribe to any particular theory and is best described as an effective *systems practice*: guided by a set of principles, adapted to a given context, grounded in the understanding of incentives and power dynamics of the specific education system. In the next section, we outline the core principles of TaRL Africa, linking them to systems change theory. In the third section, we focus on the evolution of the TaRL programme in Zambia. In the final section, we reflect on what we are learning about working with systems in practice.<sup>1</sup>

## SYSTEMS CHANGE AND TARL AFRICA

TaRL Africa uses the evidence of a proven and adaptable classroom methodology as an entry point to engage with systems of education in a given context. Collaboration with the key actors both within and outside the government education system is essential throughout the process. TaRL Africa identifies opportunities within the system to focus on children and their learning, works with key actors to co-create a strategy that enables them to diagnose and begin to address that specific problem, and then works with the wider system to evolve the strategy to tackle some of the root causes of the problem over time.

In systems thinking language, the TaRL approach can be said to engage with the major conditions of a system, from the structural (policies, practices, resource flows, etc.), the relational (power dynamics, relationships and connections, etc.), all the way to the transformative (mental models) (Kania, Kramer & Senge, 2018). In other words, TaRL Africa focuses on three high-order systemic levers: information flows, rules of the system, and mental models (Meadows, 1996). However, theory is not at the heart of the approach; there is no blueprint for how these levers are activated (though there are numerous lessons learned), nor is there a pre-set sequence in which the conditions must be addressed. Instead, TaRL Africa is guided by a set of principles focusing on working

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<sup>1</sup> The authors of this chapter are involved with TaRL Africa in various ways: from management to implementation and technical support to funding. We acknowledge that the voice of the Government of Zambia is not directly represented in this chapter, and we do not speak on its behalf.

with systems and that orient the evolution of a specific, targeted strategy within each context.

The first orienting principle of the TaRL Africa approach is to *be driven by learning outcomes*, using locally generated data to focus on the agenda. As straightforward as this sounds, in many contexts, the main measures of success in education still revolve around inputs such as enrolment or building classrooms. Although undoubtedly important, TaRL Africa focuses the purpose by keeping the actual learning outcomes of children at the centre. This includes the big picture at the national level, but it is generated from the most granular level: in the classroom, at the level of the individual child. The TaRL approach enables teachers to generate and use data immediately while also equipping them with practical tools and methods to help children catch up in their learning. The data are aggregated upwards through the system to construct the subnational and national pictures of learning.

A second orienting principle of TaRL Africa is to be *pragmatic and deeply grounded in the local context* and realities of systems, always with an eye on what's needed at full scale. This means looking for opportunities to connect with and *build on locally defined priorities*. Although the government remains the backbone of the system, in sub-Saharan African education systems, there are usually a number of influential actors, and working in partnership with them is critical to finding a workable path forward. For example, local civil society actors are often needed to build grassroots support and demand for improved education outcomes; international non-governmental organisations can help the government deliver certain components; and funders are needed for resourcing. What is important here is to centre on those actors rooted in the context who have the mandate to define and address education problems in the long term.

Third, TaRL Africa recognises and addresses both *the technical and human components of the system* from the ground up, starting with the classroom: the children and their teachers. Through TaRL, teachers have simple and effective tools to personally connect with each pupil, assess their learning levels and act on these data in real time by dividing them into learning level groups. They are also equipped with the tools to build the foundational skills of these learners in their respective groups. The teachers move learners to the next group when ready and keep track of progress over time. Teachers master this approach through intensive practice classes, where they strengthen their knowledge and confidence

through learning by doing. They are closely mentored and supported by mentors, who are often government education civil servants.

The data are aggregated upwards, to the school, district, region and national levels, and at each stage this provides a picture of learning achievements and gaps. People at different levels of the system are technically trained to understand these data, but they are also encouraged to interpret them as a real portrait of how the nations' children and teachers are faring. They are encouraged to see their role in identifying gaps to help address them for the benefit of the children, rather than worrying about exposing bad results or not reaching curriculum goals.

Fourth, TaRL Africa works to strengthen the system to the degree that TaRL Africa as an entity is no longer required; in other words, TaRL Africa *plans ahead to its eventual exit*. This means involving governments, other education actors and local civil society from the start, intentionally co-creating throughout the process. The role of TaRL Africa changes while responding to specific systems' needs at different stages in terms of how much the system can take on, evolving support functions and dynamics to respond to the system's evolving needs and ceding control of decisions.

The above core principles of TaRL Africa were developed through the work of practitioners with decades of experience working with both evidence and the systems of education in the Global South. In the following section, we describe the introduction and evolution of TaRL in Zambia's education system. We have chosen Zambia as an example because the work has been ongoing for six years (and still continues), yielding a number of interesting lessons about working with systems. In addition, TaRL Africa supports work in nine additional sub-Saharan African countries,<sup>2</sup> following the same principles but often delivered through a different model and by a different set of actors.

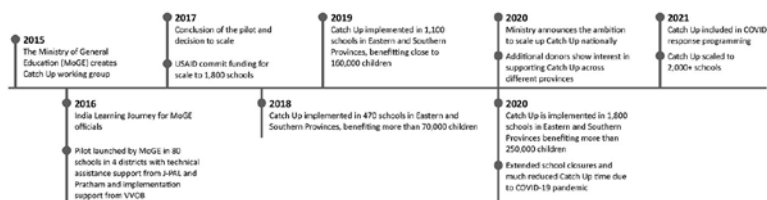
## CASE STUDY: TARL IN ZAMBIA

The evolution of TaRL in Zambia can be described in three main phases (Figure 2.1). The first phase focused on co-creating a context-appropriate solution to an urgent need identified by the Ministry of Education (MoE). The second phase revolved around inspiring and enabling the ministry to

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<sup>2</sup> Botswana, Côte d'Ivoire, Ghana, Kenya, Madagascar, Mozambique, Niger, Nigeria and Uganda.

expand, from piloting an initiative to integrating it into their functions and aligning other key education actors in support. The third phase, which is still ongoing, focuses on growing the initiative to cover a national scale and ensuring its sustainability through functioning systems and both human and financial resources. The actions, decisions and sequencing within each phase are contextually specific yet align with TaRL Africa's core principles, as described above.



Source: Authors.

Figure 2.1 Case study: TaRL in Zambia

## Phase One: Co-creating a Context-appropriate Solution to an Urgent Need

In 2015, Zambia was facing a learning crisis. It had been ranked last in measures of literacy and numeracy by the 2011 Southern and East Africa Consortium for Monitoring Education Quality (SACMEQ), and a 2014 national assessment found that 65% of Zambian second-grade learners were unable to read a single word in their local language. The primary school curriculum had recently been revised, and the government and supporting partners were experiencing challenges in rolling it out across the country. There was no shortage of education development aid in Zambia, but the various initiatives were not necessarily aligned and did not adequately address the problem of low basic learning levels. The ministry was alarmed at the low levels of basic literacy and numeracy in the upper primary grades and was looking for ways to address this.

At the same time, J-PAL Africa's policy team was searching for opportunities to work with policymakers to use evidence to address the challenges in their system. The beginnings of this process in Zambia highlight the application of several core principles of *systems practice*. First, there was an organic opportunity where the *system was open to*

*change* and where TaRL methodology offered a suitable approach. Second, action was driven by the focus on low *learning outcomes* – rather than inputs or processes in the system. Zambia had already implemented several projects that had targeted foundational literacy skills, but most had not shown an improvement in actual learning outcomes. Third, priorities were defined by analysing the *specifics of the problem as manifested in the Zambian context*; it emerged that there was no basic skills safety net for children in grades 3–5, so there was a clear gap where this massive problem existed.

Following consultations with J-PAL Africa on the evidence related to improving foundational skills, the MoE's Office of Standards and Curriculum was keen to adopt the TaRL approach, providing *internal leadership and championing* the idea within the ministry and also with a number of development agencies. J-PAL Africa further supported this process by engaging with key development actors, sharing evidence from other contexts and discussing how it could be helpfully applied in the Zambian context. Critically, the J-PAL Africa team believed that the entire process needed to be owned and managed by the key system actor, in this case, the MoE, with J-PAL and Pratham providing insights and technical assistance, not driving the decision making. With the MoE firmly in charge, an important first move was for the ministry to organise a working group of main education partners, including UNICEF, the British Department for International Development (DfID; now FDCO), the British Council and Innovations for Poverty Action Zambia. This group, under MoE leadership, hatched the plans for a pilot of what the ministry branded the Catch Up programme. The funds for the 80-school pilot were also sourced by the ministry from the Global Partnership for Education, with additional support from UNICEF and J-PAL's Government Partnership Initiative (GPI). The ministry also partnered with VVOB–Education for Development for additional mentoring and monitoring of implementation support during the pilot.

The primary goal of J-PAL Africa was to equip the MoE with the evidence they needed to make informed decisions, building on the policy lessons from the randomised evaluations. Although the TaRL intervention has been robustly proven to work across contexts, not all implementation models lead to equal improvements in learning outcomes. For example, volunteer-led models have been shown to lead to the quickest learning gains but are hard to scale and sustain. Teacher-led models show a smaller impact per child on learning outcomes, but they are more scalable and sustainable. The MoE chose to test two different teacher-led

delivery models during the pilot: a TaRL holiday camp and an hour a day of additional TaRL instruction during term time. In both models, the MoE built on the evidence generated through research showing that for a teacher-delivered TaRL model to be effective, it requires frequent visits from mentors and dedicated time for TaRL classes (Banerjee et al., 2016).

Another key principle of *systems practice* is working with the *people within the system*. This means ensuring that the actors at all levels of government connect with the problem but also with the idea that progress is possible within the existing parameters. Critical to sparking enthusiasm and commitment – but most importantly hope – was a learning journey by two key ministry officials to see TaRL in action in India and introduce them to Pratham. As a result, Pratham created a team of four staff members to support Zambia. This team spent much time in Zambia working with ministry officials to codevelop a TaRL approach that makes sense for the country, with materials in relevant local languages and contextualised teaching activities delivered within the Zambian education system. They also trained ministry officials and provided remote support. VVOB was MoE's in-country partner of choice to complement these efforts by providing additional mentoring-monitoring boots on the ground. Their mission alignment to improve quality education through building government capacity and their existing relationships and location working from within the MoE meant they could enhance programme delivery and help build quality checks into the system.

The pilot was implemented in 80 schools in 2016 and proved significant in a number of ways. First, it confirmed that most third–fifth-grade learners in Zambia lacked basic reading and mathematics skills, with more than half of children in grades 3 to 5 in the Catch Up pilot schools at baseline unable to read words. Second, the process evaluation results showed that the programme was well implemented, which is essential in establishing its feasibility. Internal monitoring largely occurred as planned; teachers stuck to the key principles of TaRL, and they continued to implement the programme over time. Third and most important, learning outcomes improved markedly during the one-year pilot period. According to government data, the share of children who could not even read a letter fell by 26 percentage points, from 33% to 8% during the pilot period, and the share of children reading with basic proficiency (a simple paragraph or a story) grew by 18 percentage points, from 34% to 52%. In arithmetic, the share of students in the beginner group (who could not even complete two-digit addition sums) fell by 16 percentage points,



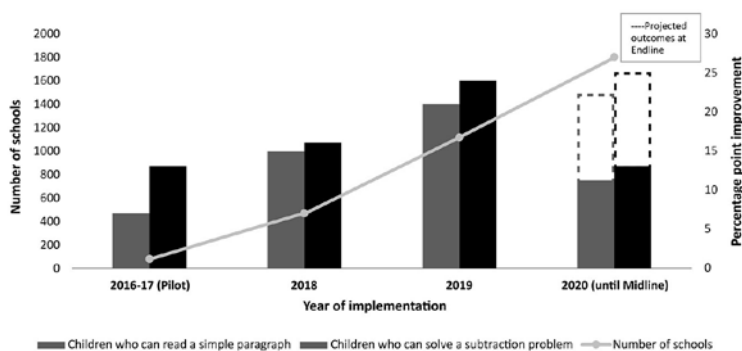
from 44% to 28%, and the share of students with basic proficiency (able to complete two-digit subtraction) rose by 18 percentage points, from 32% to 50%.

The successful pilot proved to be a *tipping point* within the MoE: the ministry decided to expand the programme based not only on positive results, but also on the feasibility of implementation because the pilot had been executed with and through the government's own systems. The MoE had chosen to pilot two different TaRL models, ultimately selecting the one they believed would be the most sustainable in their system. With this, the MoE generated enthusiasm among other development partners, and the Catch Up programme was awarded a grant by USAID Zambia (through the USAID Development Innovation Ventures structure) to expand the programme to reach 1,800 schools over three years. J-PAL Africa hired a small in-country team to support programme development and management; together with the MoE, J-PAL selected VVOB to provide on-the-ground mentoring and monitoring resources. The Pratham team visited frequently and provided remote support. J-PAL, Pratham and VVOB have continued to work in close partnership with the MoE and other education stakeholders in Zambia as Catch Up has developed and grown.

### **Phase Two: Enabling the Ministry to Expand from Piloting to Integration**

The way TaRL began in Zambia laid the foundation for a government-owned programme. However, while reaching the 'tipping point' of change is necessary as a starting point of a deeper systems-level reform, the trajectory of that change depends on the continuous collaborative pursuit of a scalable and effective approach requiring ongoing reflection and adaptation. Following another core principle of working with systems, J-PAL and Pratham *adapted the support provided* to the MoE to keep up with the MoE's own evolving capacities and needs. The support model transformed from crafting and improving the localised design of Catch Up and the direct mentoring of teachers at schools to working with zone, district and provincial leaders of the programme in delivering the programme's core functions. The real 'magic' of *systems practice* happened in this transformation from a pilot into institutionalised changes in key functions of core systemic actors. The success can be seen in the government data showing year-on-year improvements in learning outcome progress since and including the 2016 pilot.

In 2019, the MoE's roll-out of the Catch Up programme reached approximately 1,100 schools, and in 2020 it was implemented in 1,800 of the approximately 10,000 government primary schools (Figure 2.2). Scaling did not mean simply replicating the pilot in more schools. Instead, the focus was on iterating the model to build on the operational lessons from the pilot, here with the goal of continually improving the core approach to meet the context and further ingraining the approach into the various levels of the education system, as well as establishing ownership and links across the levels.



Source: Authors.

Figure 2.2 Catch Up Zambia: scale vs. outcomes

J-PAL and Pratham formalised their partnership in Africa as 'TaRL Africa' and, together with the MoE and VVOB, focused on *the incentives and motivations of key human resources* – the teachers. Critically, the Catch Up programme does not treat teachers as the 'end of the line' of the long human resources chain. Rather, teachers are seen as the starting point: if the TaRL approach does not work for teachers, it will not be successful. An essential part of the Catch Up approach is participatory methods meant to create an atmosphere of relaxed and fun learning, including singing and games. In the initial stages, not all the teachers even within the same school reacted in the same way. Some were very enthusiastic and started implementing the methodology. Some were not at all interested. Most took a neutral stance because they had seen multiple projects come and go and did not want to invest much time and energy. However a critical mass of teachers in the selected districts

did implement it, and because Catch Up generates outcome data very quickly, these teachers were energised by the clear improvements in learning among their pupils. Through the information flow architecture set up for TaRL, the data reached district education officials quickly as well. Recognising the promise of the approach, district officials sought to motivate other schools and teachers to use Catch Up, for instance by sending out letters signalling that this was a MoE project supported by MoE partners. Partly as a result of this external motivation by district officials and partly as demonstrated by the enthusiasm of fellow teachers, the large group of ‘neutral’ teachers in the selected districts started implementing Catch Up. TaRL Africa recently completed a systematic qualitative study aiming to understand what drives Zambian teachers to change their mode of instruction; this work shows a clear picture of reported behaviour change, with the change being attributed to the Catch Up programme strictly dominating as relative to other programmes (de Barros, Henry & Mathenge, 2021). The change related to Catch Up is most commonly noted as an increased understanding of learners’ needs, adoption of the Catch Up methodology, increased interaction with learners and increased use of teaching materials. Teachers also frequently mentioned that they applied the Catch Up methodology in other classes (which are conducted during regular school hours and not targeted by the Catch Up programme).

If one thinks of teachers and schools as being at the centre of the public education system in Zambia, then the district- and province-level officials are the next layer. Understanding and addressing their needs, incentives and motivations is another key part of Catch Up. For example, the education civil servants from provinces and districts were selected as master trainers from the outset so that the system would be trained by its own officials. How important district officials were to the implementation of Catch Up became clear as short-term measures of learning outcomes fluctuated with the natural turnover and shifting of relevant district staff. When a district official from a well-performing district moved to a poorly performing district, that district started improving; the opposite was true as well. Recognising this, Catch Up officials, supported by TaRL Africa and VVOB, worked with provincial education officers and developed a plan for how to engage district officials. For instance, continuing the South-to-South collaboration, Pratham staff came to Zambia to support the ten-day training of these government officials and then returned to help train a larger contingent to lead an expanded scale-up. In addition, in each year of the roll-out, education staff from the provincial, district

and school levels were engaged in regular working groups that met three times a year to improve different aspects of the programme – including the teacher guides, lesson procedures, classroom activities and measurement processes – but also very contextual and practical problems that could derail the effort if not addressed. For instance, province and district officers originally had a heavy load of school visits to deliver monitoring, mentoring and coaching. However, because of logistical and transport issues, they were not able to fully carry out these functions. The Catch Up team shifted the model: the functions of mentoring and coaching were allocated to senior teachers, who were also trained and supported to deliver these functions. The role of province and district officers shifted more towards accountability: sending instructions to schools, supporting schools as necessary, organising reflection meetings, monitoring the set-up of the assessments and acting upon assessment results.

Another important part of the human–technical link was the further strengthening of the monitoring and feedback system, with more data collection and analysis conducted at the school level by senior teachers. Data collection and aggregation was not easy for many of the schools and officials. The Catch Up team had originally placed this responsibility with the district and province officers of the MoE’s Directorate of Teacher Education and Specialised Services, but during implementation it became clear that it was in fact the MoE’s Directorate of Planning and Information that had the mandate and capacity to collect education data. Subsequently, this directorate was trained in Catch Up and began assisting schools and districts. This encouraged data-based decision making to take place at school and made aggregation and analysis easier at the zone and district levels. In fact, the classroom-based assessments and use of data at all levels – from classroom, to school, to district, to province, to national – played a critical role throughout this phase. For the first time, everyone within the education system had easy-to-understand and reliable data generated through their own systems. This created not only visibility and insights into performance at every level, but also ownership. In this way, the data could give stakeholders a trusted and tangible resource: the data could help identify problems and track progress, as well as show and celebrate the results.

### **Phase Three: Grow, Adapt and Sustain**

From the start, TaRL Africa’s vision was to enable ministry leadership to take charge of improving basic education outcomes supported by local

actors and make the best use of the development aid and international actors present in Zambia. Every component of the programme was designed together with the MoE – the delivery model, the materials and activities, and the monitoring and measurement system. This true collaboration enables the models to be owned by the government, ingrained in practice and, therefore, hopefully sustained over a long time. A signal of the usefulness of TaRL to the overall system became clear through the COVID-19 pandemic. COVID-19 had a significant negative effect on primary education in sub-Saharan Africa (Dang et al., 2021). In Zambia, schools were closed for six months in 2020 and for two months in 2021. In response, the MoE made Catch Up part of its ‘Education Contingency Plan for Novel Coronavirus (COVID-19)’, and Zambia’s eastern province decided that Catch Up would become the main method to work on learning loss and foundational skills. Catch Up was also taken up in the COVID-19 Global Partnership for Education emergency project, which covers 20 districts, while the LEGO Foundation provided COVID-19 grant support to extend Catch Up coverage to the Lusaka Province.

As the system has grown stronger, the support provided by TaRL Africa and VVOB has further evolved to address long-term planning and management needs within the system. Specifically relevant to TaRL, the ministry is planning to integrate selected activities that comprise management of the Catch Up programme into job descriptions of key ministry actors at the national, regional and district levels and to incorporate the TaRL methodology into pre-service and post-service teacher training. The focus of TaRL Africa and VVOB is shifting away from the Catch Up initiative itself, to more generally supporting the MoE to set its own vision and strategy and manage its execution across a range of programmes and actors.

As the Catch Up programme delivered impressive results and generated visible enthusiasm from the education sector, many important education donors in Zambia became increasingly keen to fund it. This support is essential because the Zambian government has limited resources and needs the collaboration of international actors. At the same time, it means there is the risk of fragmenting the focus by well-meaning but not necessarily aligned actors, unless the MoE can hold on to key oversight and management functions, as well as setting the overall strategic direction. For example, a year after the introduction of Catch Up, USAID began the Let’s Read literacy project, which targets learners in Early Childhood Education (ECE) and grades 1, 2 and 3 in five Zambian provinces, of which two were also the first Catch Up provinces. Not

surprisingly, the parallel programmes competed for scarce government resources, particularly time of MoE staff and time among education civil servants to help organise and participate in training. The MoE is managing the two programmes by aligning their complementarities, from the classroom level all the way to national level. The USAID's Let's Read provides teachers and learners with a multitude of materials that are helpful in delivering the primary literacy programme in ECE and grades 1 to 3. Catch Up is primarily remedial in nature; it focuses on improving foundational literacy and numeracy skills of those learners in grades 3 to 5 who had fallen behind the regular curriculum. From the MoE's perspective, it made sense to welcome both initiatives, and in this case the complementarities are clear. However, the universe of influential actors in the Zambian education system is large and maintaining a unifying vision and strategy while balancing the sometimes competing priorities of various actors can be a challenging task. TaRL Africa and VVOB's role is now further evolving to work with the MoE on developing their own vision and strategy, and on strengthening central coordination.

TaRL Africa's foundational work in Zambia and the lessons learned on this journey have sparked interest in the TaRL approach across the continent, giving rise to many TaRL-inspired programmes and leading to the formation of the TaRL Africa organisation to provide this type of support across the region. At the same time, TaRL Africa, Pratham and J-PAL do not believe that the TaRL approach is the 'silver bullet' that can fix foundational learning problems in all contexts. Although TaRL is indeed a specific methodology, the TaRL Africa approach is much more about understanding the core of the learning problem in a specific context and figuring out whether the TaRL methodology might be part of the pathway of improving the functioning of the education system. In Zambia itself, TaRL Africa continues to learn and adapt, acknowledging that there is still some way to go to achieve the country's learning outcomes goals and those of national scale and full system ownership. The work is ongoing, and so are the lessons being learned.

## REFLECTIONS ON WORKING WITH SYSTEMS OF EDUCATION

Perhaps the best way to describe TaRL Africa is to say that it dances with the systems it works with; guided by principles, it adapts and adjusts according to the context, actors, boundaries and incentives (Meadows, 2001). The overall goal to improve the delivery and outcomes of educa-

tion remains the same, but the methods and sequence can – and do – vary. The focus is on government education institutions because they have the mandate to reach primary school students at scale, but the process usually involves collaboration with a range of different educational actors, including civil society and international donors. There is no pre-set menu of who must be involved; the constellation depends on the combination of interest, opportunity and capacity, and it can change over time. In Zambia, the opportunity arose within the Ministry of Education, in large part because the ministry itself had already identified remedial teaching as a priority to shore up basic learning levels in primary school. There was genuine organic interest from a system actor in an influential enough position to make TaRL a national project, drawing in the support of a number of important non-government actors, such as UNICEF, GPE and others.

To work this way, TaRL Africa must be comfortable with uncertainty, and it must be able to change course, as needed. Rigid recipes or must-follow maps would be useless. Instead, TaRL Africa relies on its core principles to help it navigate each particular context. In turn, these principles help unlock some of the key levers in education systems.

The focus on data and teachers is an ingenious backbone of TaRL, through which it works on one of the highest levers in a system – the mental models. Teachers are a critical part of the civil service and account for a significant proportion of national spending in sub-Saharan African countries (Crawford, 2020). At the same time, research has consistently revealed serious challenges in the profession and how it delivers education, frequently marked by low motivation and high absenteeism among teachers (Bold et al., 2017). However, the picture is complicated. Teacher advocates often point to systemic malfunctions, such as inadequate training, low or inconsistent pay and overambitious curricula, as the reason for the failure of teachers to show up and deliver quality teaching. The solutions are not straightforward, and there are many examples of high-level reforms (e.g., the revision of curricula or increases in teacher salary) that have yielded no impact on learning (de Ree et al., 2017). It is quite common for a ministry of education and associations of teachers to be stuck at an impasse, blaming one another for poor performance. The TaRL approach can cut through this by challenging how teachers see themselves and how the system perceives them. It taps into the human motivation and potential of teachers by giving them autonomy to focus on the children in their classroom: test their learning levels, group them accordingly, teach through interactive, simple but effective means, re-test

to observe the results and adapt the methods accordingly. The teachers are no longer the last cogs in the machine passively delivering content; they become central figures with the most visibility into and capacity to respond to children's learning needs.

Through this focus on granular, usable data that can be aggregated up to regional and national results, TaRL influences another powerful system lever: the generation, flow and access of critical information. Along the way, some rules of the system may become redefined as well. At each important node (classroom, school, district, province, etc.), the TaRL Africa approach enables the actors to see and feel the data, to have a sense that it is grounded in their schools and their children and to take action at their level, which will further support learning. Feedback loops are built along the trajectory because each level communicates with other levels. This is in stark contrast to periodic high-stakes examinations that are set according to ambitious curricula (and, therefore, usually out of tune with much of the student body), often designed by experts with little or no input from those delivering education, administered through top-down protocols, and analysed centrally. TaRL does not replace examinations. It has a different purpose: to generate trusted data on learning that are useful immediately and directly to the teachers administering the simple tests while strengthening the monitoring mechanisms to allow these data to be shared and used up and down the system. In other words, implementing TaRL means wrestling some of the power from the upper echelons of the system (where the curricula are set and examinations are designed and administered) and distributing it across the system.

Likely one of the least surprising lessons is that this process – particularly when the redistribution of power is in question – is often contested, does not follow a straight 'progress' line and takes longer than originally planned. In fact, although planning is essential, commitment to co-creation and local ownership means responding to needs as they appear and working at a pace that builds strength in different areas and actors of the system over time. In turn, the system's capacity to absorb change and deliver new components also adjusts, further redefining the needs and pace.

In this chapter, we have attempted to describe the practice of working with systems of education through a case study of the evolution of the TaRL initiative in Zambia. Although it is very tempting to package this into a series of 'best practices' that could be replicated elsewhere, we believe that the primary lesson our case study illustrates is that successful work with systems is guided by a series of principles and a clear purpose,



while the choice of actions and processes is thoroughly adaptive over time. We – the authors and organisations we represent – have also learned going through the process and are influenced by the progression of the Catch Up programme and the ongoing transformation of the Zambian education system. We offer some of our reflections below.

At Pratham, working with governments and communities is at the core of our approach to partnership. We bring know-how and expertise, but each journey is one of discovery, collaboration and co-creation. The Zambia experience taught us how to do this in a different context and culture. When starting the collaboration with the Zambian MoE, we were not aware of the availability of resources in the government system to design and execute an innovation like TaRL. However, the involvement and motivation of government officials from the very start has allowed us to build a programme well-suited to the realities of the Zambian system. We have honed our approach to partnerships, focusing on the flexibility and openness to adapt and adjust based on the experiences and expertise of our partners. We look forward to continuing this journey through our TaRL Africa and global partners and making improved learning a possibility for children across the world.

At VVOB–*Education for Development*, we partner with ministries of education to provide innovative solutions that ensure education systems are equitable and inclusive, and provide quality education. The Catch Up experience has encouraged us to reflect more about the conditions, assumptions and processes that enable an education system to bring the lesson from a small pilot into core functions of the system to reach a national scale. The added focus on quick data collection has helped us further fine-tune our capacity development strategy towards the MoE, its staff, headteachers and teachers. The trajectory of the initiative overall has underscored the power of networking with other organisations. VVOB is eager to further assist the MoE in its endeavour to bring Catch Up to all schools in Zambia. Building on the experiences in Zambia, VVOB has started piloting TaRL in Uganda and is eager to learn more about which model works best in which context and to contribute to a continental learning and research agenda on TaRL.

At J-PAL Africa, we focus on supporting policymakers and practitioners in using evidence to improve lives. The Catch Up journey has stretched our understanding of what bridging the gap between evidence and action means. We have experienced the value and importance of deeply engaging in the implementation details of a programme to ensure that the lessons from the evidence are carefully operationalised. We have

actively incorporated complementary research methods to ensure the boundaries of what specific evaluations measure are expanded to include critical global lessons, theory, on-the-ground experience and local contextual considerations. Our work within Catch Up has been pivotal in our development of more general frameworks to inform our broader efforts to move from research to policy to practice. Most of all, the Catch Up and TaRL Africa journey more generally have affirmed our belief in the power of collaboration. Catch Up's beginning and growth have required the contributions of many actors with diverse skill sets. These partnerships are not always simple to navigate, but they have been grounded in the common core value of improving learning outcomes for children in Zambia and doing so sustainably into the future. It has been encouraging to see what we can achieve together.

At Co-Impact, we believe in supporting organisations like TaRL Africa, which are squarely focused on working with systems to foster enduring improvements in how they function, and we try to structure our support in ways that best enable such work. A key aspect to TaRL Africa's success is the team's ability to maintain a laser focus on the long-term goal while having the freedom to manage its own choices regarding how it engages with and supports the system in any given context. In fact, across our grants we see that organisations are successful system actors precisely because they can adapt and make choices, not despite this. What is critical is alignment of purpose, which we state as improved development outcomes for people *through* systems change. As funders, this means that we need to provide TaRL Africa and others with long-term funding that meaningfully contributes to the full cost of the effort (including the critical costs needed to lead, manage and further strengthen a sophisticated organisation), that is fixed on a core set of long-term results (such as enduring improvements in the system that leads to better results for millions of students) but that is also flexible and adaptive, giving TaRL the freedom to truly 'dance' with the system and respond well to its dynamics and changes in the context.

TaRL Africa envisions a future in which all children who are in school learn; it believes that the optimal way to arrive in that future is to enable systems with the mandate and the reach to perform better.

We close with a quote from Donella Meadows (2001):

The future can't be predicted, but it can be envisioned and brought lovingly into being. Systems can't be controlled, but they can be designed and redesigned. We can't surge forward with certainty into a world of no surprises, but

we can expect surprises and learn from them and even profit from them. We can't impose our will upon a system. We can listen to what the system tells us, and discover how its properties and our values can work together to bring forth something much better than could ever be produced by our will alone. We can't control systems or figure them out. But we can dance with them!

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