Designing and Testing Scalable Teacher Motivation Interventions: Using Context-Driven Methodologies in Zambia

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Background

Primary school enrolment rates in Zambia are on the rise; however, many children are not acquiring foundational literacy and numeracy (FLN) skills during the first few years of schooling. According to a USAID report, in 2021 70% of Zambian children in grade 2 were not able to read a single word of text[1]. Children who do not learn FLN in the early grades show slower or no grade progression and higher dropout rates[2]. They also have poorer future economic prospects[3].

To address this issue, the Zambian Ministry of Education (MoE) introduced the Teaching at the Right Level (TaRL) approach. The programme is called Catch Up, and it focuses on building FLN skills among primary school children in grades 3 to 5. Catch Up uses simple assessments to group children by level– not grade– and provides targeted and playful instructional activities for accelerated learning. Lessons are held daily for one hour outside of regular school hours by teachers trained in the TaRL method. Following a successful pilot in 2016, the MoE began scaling Catch Up across the country. As of 2024, Catch Up is being implemented in 5,315 schools across 9 provinces.

Catch Up in Zambia is a multi-stakeholder model that requires cooperation and collaboration between MoE officers (at different levels), external facilitators, school administrators, and teachers for successful implementation and scaling.

The MoE has incorporated Catch Up into the existing School Programme for In-service Training for the Term (SPRINT) program to help teachers engage in continuous professional development activities based on locally identified needs. Schools have the autonomy to schedule Catch Up classes, but they must be conducted outside of regular school hours. Teacher training in the TaRL methodology is provided by master trainers (government staff such as district resource centre coordinators (DRCCs)), who are trained by external facilitators (from VVOB or TaRL Africa). Training focuses on child-centred, play-based learning, the use of teacher guides, and the appropriate way of assessing and grouping students by level. Catch Up teachers are expected to receive periodic refresher training on the TaRL approach, in addition to ongoing hands-on, practice-based mentoring. School mentors are trained by master trainers and are expected to guide Catch Up teachers in their daily planning and implementation. These school mentors have undergone extensive and more rigorous training in Catch Up compared to regular Catch Up teachers. In addition, head teachers oversee their school's Catch Up calendar and provide administrative support to Catch Up teachers.

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[1] USAID (2022). USAID Education Data Activity: Early Grade Reading Assessment 2021 Midline Report. DevTech Systems Inc. Retrieved from https://pdf.usaid.gov/pdf_docs/PA00ZJPQ.pdf

[2] Jonathan M. B. Stern, Matthew C. H. Jukes, Jacobus Cilliers, Brahm Fleisch, Stephen Taylor, and Nompumelelo Mohohlwane. 2023. “Persistence and Emergence of Literacy Skills: Long-Term Impacts of an Effective Early Grade Reading Intervention in South Africa.” CGD Working Paper 672. Washington, DC: Centre for Global Development. https://www.cgdev.org/publication/persistence-and-emergence-literacy-skills-long-term-impacts-effectiveearly-grade

[3] Obiakor, T. and Newman, K. 2022. Education and Employability: The Critical Role of Foundational Skills. RISE Insight Series. 2022/048. https://doi.org/10.35489/BSG-RISE-RI_2022/048

Research Purpose

The way teachers approach Catch Up is crucial to improving learner outcomes. To achieve success, teachers need to participate in training, plan and teach daily lessons tailored to learners at different levels, assess and regroup learners as they progress, and identify and resolve any challenges that arise in the classroom. All of this must be done while facing challenges such as understaffing, limited infrastructure, and equipment shortages. It is, therefore, essential for teachers to have the skills and motivation necessary to carry out Catch Up successfully. However, there is a gap in our knowledge of what motivates and drives Catch Up teachers' behaviour.

A relatively small share of studies on teachers' beliefs comes from low- and middle-income countries[4]. Moreover, only 18% of these studies have used teachers' beliefs to design and evaluate interventions. As a result, there is limited knowledge about what factors influence the adoption of effective teaching practices by teachers in low and middle-income countries, particularly those that can be scaled.

Our research aspires to contribute to this knowledge gap. It aims to iterate on the current programme to improve implementation fidelity. We use methods from behavioural science, which allow us to centre interventions around teachers' beliefs and behaviours. As a direct result of this approach, all recommendations of the study will (a) seamlessly fit into the existing Catch Up delivery systems and (b) be cost-effective (as is the nature of behavioural nudges) and therefore easily scalable as the MoE expands the programme's implementation in Zambia.

Methodology

Led by Busara Centre for Behavioural Economics and in collaboration with TaRL Africa, VVOB – education for development, and the Ministry of Education (MoE) Zambia, a comprehensive and adaptive study was designed to improve the delivery of Catch Up in Zambia.

The research study involves an iterative and human centred process that actively involves teachers, education stakeholders, and implementing partners to ensure that the solutions generated are relevant and appropriate for the Zambian context. It also considers the teachers' lived realities and the challenges they face to provide solutions that are suitable for the targeted population within the existing model. The process of this research study can therefore serve as a blueprint for the development of evidence-based, contextualised, and cost-effective solutions to address behavioural challenges in quality program implementation at scale.

The study began in 2023 and will end in September 2024. The study's geography included Eastern, Southern, and Lusaka provinces. We utilised theories from behavioural science in tandem with a range of research methods, including in-depth interventions (IDIs), surveys, co-design workshops, and lab experiments. The study aims at identifying enablers and barriers to effective Catch Up delivery, and to develop solutions informed by behavioural science, uniquely tailored to the Zambian context. The research is divided into three phases: *Understand (I)*, *Design (II)*, and *Assess and Optimise (III)*.

Phase I: Understand

In the first phase of the research, the aim was to understand the factors that hinder or promote the use of TaRL methodologies by Catch Up teachers in Zambia. First, a committee of stakeholders was formed to guide the research study. Members included MoE staff at different administrative levels who are closely involved with Catch Up and SPRINT, implementation partners, and technical advisors. Through the

[4] Sabarwal, Shwetlena & Abu-Jawdeh, Malek & Kapoor, Radhika. (2021). Teacher Beliefs: Why They Matter and What They Are. The World Bank Research Observer. 37. 10.1093/wbro/lkab008

course of the study, the committee played a key role in contextualising findings, and providing logistical and administrative support to the research team.

Next, we developed IDI guides and interviewed 30 teachers from Catch-Up schools in person across 11 districts in Eastern, Southern, and Lusaka provinces. The districts were chosen to represent different educational environments, including urban, shantytown, and rural schools. Based on this information and in a bid to quantify findings from the IDIs, we conducted a survey of 2,000 teachers over the phone in June 2023. This included teachers in 1800 schools in the Eastern and Southern provinces (900 per province), excluding Itezhi-Tezhi and Chama, as teachers in these two districts had not yet been trained on Catch Up. We randomly selected the remaining teachers from 200 schools in Lusaka.

Our analysis was guided by the Capability, Opportunity, Motivation, Behaviour (COM-B) model[5], and we carried out between-group analyses to identify how barriers and enablers affect teachers' capability, opportunity, and motivation to deliver high-quality Catch Up lessons. We also explored demographic differences such as gender, teaching qualifications, and location and its impact on teaching practices and learner outcomes.

Phase II: Design

In late November 2023, we conducted two co-design workshops with teachers and Catch Up stakeholders. Participants from the three provinces were invited to Lusaka, where we presented our findings and solicited feedback on: (a) addressing the barriers in a way that can be integrated into the existing Catch Up delivery system and (b) the behavioural mechanisms that underpinned the proposed solutions. We used human-centred design techniques to guide the workshop, including "*how might we"* questions, storyboarding, and empathy mapping.

After the workshops, we presented the list of solutions to the steering committee, which refined and prioritised teachers' ideas based on their potential impact on learner outcomes and feasibility of scaling. This was achieved by considering factors such as the time investment required from those involved, the financial costs associated with the solution, and whether any specific skill set was necessary for implementing the solution.

Phase III: Assess and Optimise

The solutions proposed will be tested through experimental lab games, which are small-scale randomised control trials (RCTs), to determine the causal links between the solutions and key indicators of Catch Up uptake, (particularly the level of effort put into implementing quality Catch Up lessons). In May 2024, teachers will be brought to a central location, providing researchers with maximum control over their immediate environment, minimising noise, and maintaining a stable lab environment for participants.

During the lab games, teachers will be asked to participate in tasks that are similar to the classroom tasks that they undertake when implementing Catch Up. By replicating the contexts in which Catch Up teachers operate, we will ensure that the final solutions are scalable within the existing programme. An example of a lab game could be to ask teachers to assign learners to the appropriate learning group (task) and receive feedback on whether they are grouping learners correctly (solution). While the task will remain the same between teachers, the solution will be varied (some teachers will receive feedback while others will not). In other words, besides variation in exposure to the "solution," games will be identical. As a result, any significant findings from the lab games will enable us to establish causality between the solutions and

[5] Michie, S., van Stralen, M. M., & West, R. (2011). The behaviour change wheel: A new method for characterising and designing behaviour change interventions. Implementation Science, 6(1). https://doi.org/10.1186/1748-5908-6-42

outcomes. Different variations of these games will test which version of the solutions suggested during the co-design workshop has the most significant impact on teachers' level of effort in the tasks within the Catch Up ecosystem, including the nature and source of feedback and the environment in which they receive feedback.

Findings

Phase 1 of the study resulted in three key findings:

(i) 40% of the teachers we sampled stated that they did not feel confident in their ability to manage Catch Up classrooms. Disaggregating by gender, we found that male teachers reported higher self-confidence to manage classrooms, teach the Catch Up curriculum, and manage learner behaviours than female teachers.

(ii) There are positive social norms surrounding Catch Up across all three provinces. On average, 86% of the sampled teachers report seeing other teachers putting in the time and effort required to teach Catch Up well and helping one another when faced with challenges. Seeing their peers supporting each other encourages teachers to follow suit.

(iii) Most teachers (80%) attribute poor learner outcomes to external influences (like insufficient resources to facilitate Catch Up activities). This means that these teachers have an external locus of control– they do not perceive their actions (like planning and facilitating Catch Up classes) to affect learner outcomes. This negatively impacts their motivation to put in the time and effort required to teach high-quality Catch Up lessons.

In Phase 2, co-design participants identified a list of interventions that incorporated the enabler (positive social norms), and circumvented barriers (low self-efficacy to teach Catch Up and an external locus of control). Catch Up stakeholders in the steering committee, and VVOB and TaRL Africa identified two key behavioural mechanisms at play in the list of interventions, which will be impactful and feasible to incorporate into the existing programme. With this feedback, we formed two hypotheses:

(i) Recognising teachers and providing them with feedback on their performance will improve their self-efficacy to teach Catch Up, and the level of effort they put into teaching Catch Up.

(ii) Providing teachers with detailed information about (a) how to manage common challenges Catch Up teachers face and (b) what to expect in terms of how quickly learners progress will improve their sense of control over learner outcomes, and the level of effort they put into teaching Catch Up.

Next Steps

The lab games are being developed through an iterative process involving multiple rounds of feedback with implementing teams to ensure that the games accurately reflect the real-life experiences of Catch Up teachers. Solutions that show significant improvements in the outcomes detailed in the hypotheses above will then be shared with implementing teams and the steering committee. This will help to identify how these solutions can be integrated into existing Catch Up programming, as well as future scaling efforts in the three provinces and across the rest of the country.